I-50970063 - TD-200 IDE Devices Not Recognized Following a Windows 95 Installation

Abstract

It has been reported that various TD-200 systems fail to recognize the CD-ROM device (or any other device attached to the secondary IDE Controller) following an installation of the retail version of Windows 95 (Version 950). This is a result of how the Windows 95 installation detects it and configures the IDE controller. Any device on the secondary IDE controller may be disabled after the installation of Windows 95 is complete. A patch is available from the Intel FTP and BBS site to work around the problem.

Symptom

The retail version of Microsoft Windows 95 may not recognize the Intel 82371SB PIIX3 IDE controller on Intel motherboards, causing the BIOS to disable the secondary IDE channel. This can prevent the IDE devices (such as CD-ROM drives) from being detected or disappearing after the system is rebooted. For instance, the devices will not appear in Explorer, File Manager, or an MS-DOS prompt. This problem will also prevent any other operating systems installed on the system from accessing the IDE devices.

To determine if the system has been configured incorrectly, look in the Windows 95 Device Manager by clicking on START, SETTINGS, and then CONTROL PANEL. Double click on the SYSTEM icon, and click on the Device Manager tab. Double click on the Hard Disk Controllers. If the following drivers are listed, the system has NOT been configured correctly:

> Primary IDE Controller (single FIFO) Standard Dual PCI IDE Controller Standard IDE/ESDI Hard Disk Controller

Problem:

A file entitled MSHDC.INF, which includes a list of IDE controllers, is included in the shipment of the retail version of Windows 95 but does not include the Intel 82371SB PIIX3 IDE controller entry. During the installation of Windows 95, the IDE controller is seen but the installation can not identify the exact controller type because it is not listed in the MSHDC.INF file. The installation enables the primary IDE channel of the 82371SB, but assumes the secondary IDE channel belongs to a non-plug and play ISA IDE controller. Therefore, Windows 95 adds this information to the plug and play configuration area. When the system is rebooted, the motherboard BIOS interprets the information provided by the installation and disables the onboard secondary IDE channel assuming that an ISA IDE expansion card has been installed. This renders any devices on this channel inaccessible. The most common symptom is that the CD-ROM drive will not be recognized by Windows 95 after rebooting the system.

Solution:

Two solutions exist pending the state of the system. If Windows 95 has been installed and the CDROM device can no longer be accessed, a patch must be installed from Intel's FTP site to correct the problem. If the hard disk drive has been formatted or Windows 95 has been removed from the system and the CDROM device can no longer be accessed, the system utilities must be used to correct the problem.

Installing the Intel Patch:

If Windows 95 is installed on the system but the CDROM device cannot be accessed, an Install Wizard should be installed that adds an entry for the 82371SB IDE controller into the MSHDC.INF file. This utility

is entitled IDEINFUP.EXE in self-extracting zip file format. It is available from the Intel FTP site at ftp://ftp.intel.com/pub/patch, or from the Intel BBS (503-264-7999).

Download this utility, and follow the instructions to update the hard drive configuration file (MSHDC.INF). The IDEINFUP.EXE utility corrects all of the issues regarding this problem. Once it runs correctly, the system will function properly. When properly configured, the Windows 95 Device Manager will indicate the IDE devices correctly:

> Intel 82371SB PCI IDE Controller Primary IDE Controller (dual FIFO) Secondary IDE Controller (dual FIFO)

## Regaining access to the CDROM using the system utilities:

If the hard disk drive has been formatted or Windows 95 has been removed from the system, to gain access to the CDROM, the following steps must be performed.

Note: This solution should only be performed by qualified technicians. Please see the TD-200 Hardware Users Guide for proper anti-static precautions.

> Shutdown the system Remove the cover to the CPU tower case Locate the "CMOS Reset" jumpers on the motherboard (pins 18-20). See diagram below. Turn the system When the "Press <F1> for setup, <ESC> to boot" prompt appears, the system's NVRAM has been cleared and reset to the factory default Turn the power off on the system Remove the jumper from pins 18-20 Reconnect jumper pins 20-22 Turn the power on the system Press F1 to enter SETUP At the main SETUP menu, choose "Primary IDE Master" and press return The "IDE Device Configuration" should be highlighted on "auto configured". Press Enter. Choose "user definable" and press enter Choose "auto configured" and press <F10> to save the CMOS settings and exit Verify that the CDROM is functional following a system reboot Turn the power off on the system and restore the cover on the tower case

The system should now function correctly. Windows 95 can be installed using the Windows 95 boot floppy. Depending on the version of Windows 95 installed to the system, the Intel patch may need to be applied by following the instructions listed above.

Jumper Locations
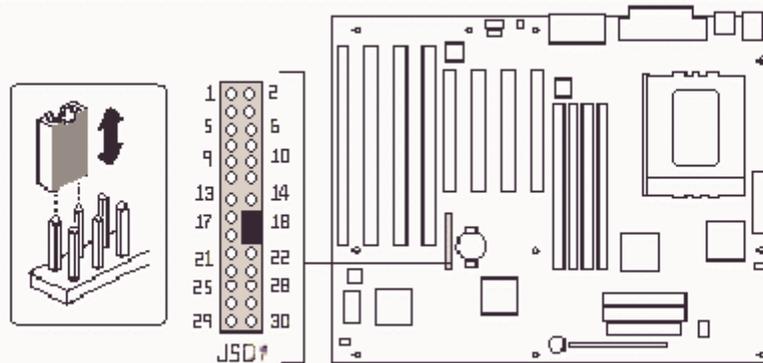
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