

**AX8931A**

**Mini PCI IDE Control Board**

**User's Manual**

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## **ESD Precautions**

Integrated circuits on computer boards are sensitive to static electricity. To avoid damaging chips from electrostatic discharge, observe the following precautions:

- Do not remove boards or integrated circuits from their anti-static packaging until you are ready to install them.
- Before handling a board or integrated circuit, touch an unpainted portion of the system unit chassis for a few seconds. This helps to discharge any static electricity on your body.
- Wear a wrist-grounding strap, available from most electronic component stores, when handling boards and components.

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# Chapter 1

## Introduction

### 1.1 General Description



The AX8931A is a mini-PCI card which is designed to support motherboards with a PCI bus speed of 33MHz. The card is backward compatible allowing you to install the controller into a 33MHz PCI bus motherboard where it will allow maximum data transfers of up to 133MB per second across the bus. Please note that actual transfer rates will depend on the capabilities of each device attached to the controller. The controller installs easily into any available mini PCI slot on your system's motherboard. The AX8931A controller card provides two IDE channels that support Ultra ATA 100/133 protocols, perfect for such demanding applications as real-time video, multimedia, and high-performance operating systems.

AX8931A's two IDE connectors each support a master/slave combination of IDE devices, including Ultra ATA, EIDE, IDE, Fast-ATA, and ATAPI. Devices of different standards can be connected to AX8931A without performance degradation, due to the independent programmable timing registers in the controller's design.

## **1.2 Specifications**

- Provides up to 133MB/sec bandwidth
- CRC checking with Ultra ATA hard drives
- Dual independent channel PCI IDE bus master controller
- PCI "Plug & Play" compatibility
- Onboard BIOS with LBA translation and Extended Int 13, supporting IDE hard drives up to 144PB (144,000,000 GB)
- Flash able BIOS allows easy upgrades

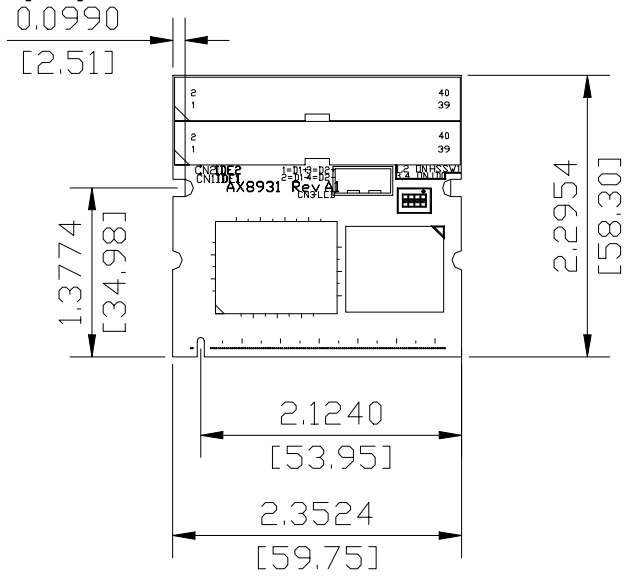
## **1.3 Physical/Environmental**

<b>Dimensions</b>	2.36" x 2.30" (6.00cm x 5.85cm)
<b>Operating Temperature</b>	32°F to 122°F (0°C to 50°C)
<b>Relative Humidity</b>	5% to 95% (non-condensing)
<b>Warranty</b>	One year limited parts and labor

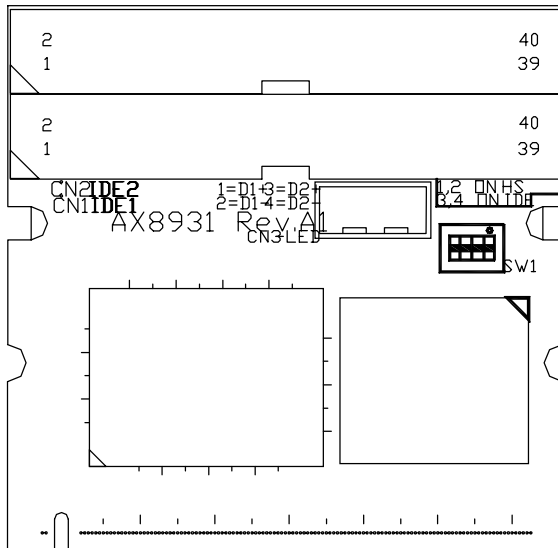


## 1.4 Board Dimension

Unit: inch/[mm]



## 1.5 Board Layout



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## Chapter 2

### Installing The AX8931A

This section is to help you prepare the AX8931A card for installation into your existing system. Please read through this chapter carefully before attempting to install AX8931A. You should record the system's current CMOS (system setup) settings before making any changes.

**WARNING:** AX8931A, like every other valuable part of your system, is subject to static electricity. Be sure that you're properly grounded (AXIOMTEKCo. recommends that you wear an anti-static strap, or touch a grounded object), and that your system is unplugged before installing AX8931A.

#### 2.1 Controller Card Installation

Installing the AX8931A controller card in a system is a simple process. The card fits into any available 32-bit mini PCI connectors (must be PCI 2.1 or 2.2 compliant).

1. Install the AX8931A controller card into the mini PCI connect (see Figure 1 below).
2. Attach your system case's 4-pin LED cable to the LED connector on the AX8931A controller card (see CN3 on "Jumper Settings"). Make sure that pin 1 on the connector is aligned with pin 1 of the cable.

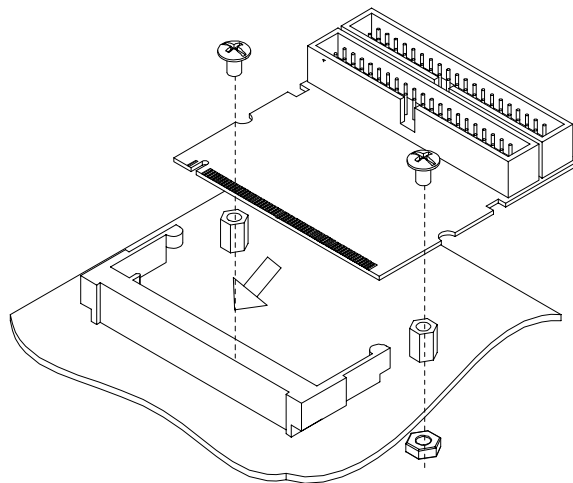
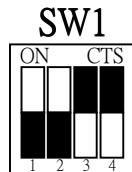
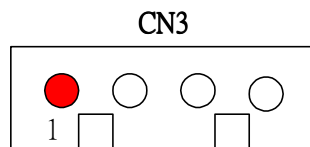


Figure 1

### 2.1.1 Jumper Settings



1,2 off 3,4 on for AX8931A  
1,2 on, 3, 4 off for AX8931 and AX8931B



Pin 1 -- IDE 1 LED +  
Pin 2 -- IDE 1 LED -  
Pin 3 -- IDE 2 LED +  
Pin 4 -- IDE 2 LED -

## 2.2 Hard Drive Installation

**WARNING:** If you wish to use your current bootable drive with the Windows NT4, 2000, or XP operating system on the AX8931A, do NOT connect this hard drive to the AX8931A controller before installing the NT, 2000, or XP driver. You MUST install the NT, 2000, or XP driver first (see "INSTALLING DRIVERS" section) to the boot drive using your existing hard drive controller.

1. Configure the jumpers of the hard drive you're preparing to connect to the AX8931A using the proper "Master," "Slave," or "Cable-Select" settings. You may need to refer to your hard drive's manual for more information. The instructions here assume you will be installing a single drive on to the AX8931A card.
2. Install the hard drive in the proper hard drive bay of your system.
3. Attach the Ultra ATA cable to the hard drive and to one of the IDE connector on the AX8931A controller card. The colored edge of the cable(s) indicates pin 1, and the blue cable connector must be attached to the AX8931A connector.
4. Proceed to the Installing Drivers section.

**NOTE:** You must use an 80-wire, 40-pin cable when connecting an Ultra ATA100 /133 hard drive to the AX8931A controller card. The AX8931A package contains one 80-wire, 40-pin cable. Please also note that use of a cable longer than the ATA standard of 18" may result in system instability.

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## Chapter 3

### Installing Drivers

This section details the AX8931A driver installation procedure when used with various operating systems.

If you have purchased an AX8931A for your existing PC, you will need to install the appropriate driver for your current operating system.

If you own a PC with an existing AX8931A card, drivers were already installed with the system. You would only need to re-install drivers if re-installing an operating system or installing an updated driver.

If you want to install a new system on your PC, you need to make an AX8931A driver floppy first. First of all, you need to find a PC with system and CD ROM already. Then you should put AX8931A driver CD into CD ROM and a new floppy into floppy driver. Copy all files under driver CD path : A8931A/driver/ \*.\* into floppy. Thus, you will have an AX8931A driver floppy.

### 3.1 Windows 2000

#### Installing Driver During New Windows 2000 Installation

1. Start the installation:
  - a. Floppy Install: Boot the computer with the Windows 2000 installation diskettes.
  - b. Floppyless Install: Boot from floppy and type "WINNT". After files have been copied, the system will reboot. On the reboot, press <F6> after the message "Setup is inspecting your computer's hardware configuration..." appears.
  - c. CD-ROM Install: Boot from the CD-ROM. Press <F6> after the message "Press F6 if you need to install third party SCSI or RAID driver" appears.
2. When the "Windows 2000 Setup" window is generated, press "S" to Specify an Additional Device(s)
3. Insert the driver diskette into drive A: and press "Enter" key.
4. Choose "Win2000 Promise AX8931A IDE Controller" from the list that appears on screen, and then press the "Enter" key.

5. The Windows 2000 Setup screen will appear again saying "Setup will load support for the following mass storage devices:" The list will include "Win2000 Promise AX8931A IDE Controller".

**NOTE:** If you need to specify any additional devices to be installed, do so at this time. Once all devices are specified, continue to the next step –

6. From the Windows 2000 Setup screen, press the Enter key. Setup will now load all device files and then continue the Windows 2000 installation.

### **Installing Driver in Existing Windows 2000 System**

**WARNING:** If you will be moving the boot drive containing the existing Windows 2000 operating system to the AX8931A card, the AX8931A driver **MUST** be loaded on to this hard drive while it is still attached to your existing hard drive controller. Do not attach this drive or any other hard drive to the AX8931A controller card before completing this step.

After installing the AX8931A card and rebooting your system, Windows 2000 setup will show a "New Hardware Found" dialog box. Under Windows 2000, "PCI Mass Storage Controller" will be displayed.

1. Choose "Add New Hardware Wizard" from the list, and then press "Enter".
2. Choose "Add/Troubleshoot a device" and press "next" then new hardware wizard will show device list
3. Choose "Mass Storage controller" and press "next" and next screen press "finish"
4. Choose "display a list the known drivers for this device so that I can choose a specific driver" then press "next"
5. It will show all Windows 2000 supported SCSI adapter drivers. Press "Have disk"
6. Insert the AX8931A driver CD in CD ROM. (Assume that your CD ROM is D:)
7. Type "D:AX8931A\ Win2000" in the text box. Press "OK".
8. Choose "Win2000 Promise AX8931A IDE Controller" from the list that appears on screen, and then press the "Next" key.
9. Press "Yes" to confirm continue the installation and copy the driver



to system.

10. Remove the floppy diskette and click on "Finish" to restart the system. Windows 2000 will then restart for the driver installation to take effect.

### Confirming Windows 2000 Installation

1. From Windows 2000, open the Control Panel from "My Computer" followed by the System icon.
2. Choose the "Hardware" tab, and then click the "Device Manager" tab.
3. Click the "+" in front of "SCSI controllers". "Win2000 Promise AX8931A IDE Controller" should appear.

## 3.2 Windows XP

### Installing Driver During New Windows XP Installation

1. Start the installation:
  - a. Floppy Install: Boot the computer with the Windows XP installation diskettes.
  - b. Floppyless Install: Boot from floppy and type "WINNT". After files have been copied, the system will reboot. On the reboot, press <F6> after the message "Setup is inspecting your computer's hardware configuration..." appears.
  - c. CD-ROM Install: Boot from the CD-ROM. Press <F6> after the message "Press F6 if you need to install third party SCSI or RAID driver" appears.
2. When the "Windows XP Setup" window is generated, press "S" to Specify an Additional Device(s)
3. Insert the driver diskette into drive A: and press "Enter" key.
4. Choose "WinXP Promise AX8931A IDE Controller" from the list that appears on screen, and then press the "Enter" key.

**NOTE:** Immediately following the loading of the selected driver the Installation Program will notify you of following:

*"The driver you provided seems to be newer than the Windows default driver.*

*Windows already has a driver that you can use for "WinXP*

*Promise AX8931A IDE Controller".*

*Unless the device manufacture prefers that you use the driver on the floppy disk, you should use the driver in Windows."*

5. Press "S" to use the driver on the floppy disk, and then press "enter" to continue with installation.

If you press "enter" to use "Windows default driver", you will encounter the following error message in the next phase of the installation:

*"Setup did not find any hard disk drives installed in your computer"*

**NOTE:** Restart installation and then use option "S" to load driver from floppy disk.

6. The Windows XP Setup screen will appear again saying "Setup will load support for the following mass storage devices:" The list will include "WinXP Promise AX8931A IDE Controller".

**NOTE:** If you need to specify any additional devices to be installed, do so at this time. Once all devices are specified, continue to the next step –

7. From the Windows XP Setup screen, press the Enter key. Setup will now load all device files and then continue the Windows XP installation.

### **Installing Driver in Existing Windows XP System**

**WARNING:** If you will be moving the boot drive containing the existing Windows XP operating system to the AX8931A card, the AX8931A driver **MUST** be loaded on to this hard drive while it is still attached to your existing hard drive controller. Do not attach this drive or any other hard drive to the AX8931A controller card before completing this step.

After installing the AX8931A card and rebooting your system, Windows XP setup will show a "Found New Hardware" dialog box. Under Windows XP, "Mass Storage Controller" will be displayed.

1. Insert the AX8931A driver CD into CD ROM.
2. Choose "Install the software automatically" and press the "Enter" key.
3. Choose "WinXP Promise AX8931A IDE Controller" from the list

that appears on screen, and then press the "Enter" key.

4. If using a driver that has not been digitally signed by Microsoft, you will be asked if you want to continue the installation. Click on "Continue anyway".

### **Confirming Windows XP Installation**

1. From Windows XP, open the Control Panel from "My Computer".
2. Click on "Performance and maintenance".
3. Click on the "System" icon.
4. Choose the "Hardware" tab, and then click the "Device Manager" tab.
5. Click the "+" in front of "SCSI controllers". "WinXP Promise AX8931A IDE Controller" should appear.

## **3.3 Windows NT 4.x**

### **Installing Drivers During New Windows NT 4.0 Installation**

1. Start the system installation by booting from the Windows NT disk:
  - a. Floppy install: boot the system with the Windows NT installation diskettes.
  - b. Floppyless install: boot from floppy and type "WINNT /B". After files have been copied, the system will reboot. On the reboot, press the "F6" key when the message "Setup is inspecting your computer's hardware configuration..." appears.
  - c. CD-ROM disk install: boot from the CD-ROM disk and press the "F6" key when the message "Setup is inspecting your computer's hardware configuration..." appears.
2. When the "Windows NT Setup" window is generated, press "S" to Specify an Additional Device(s).
3. Use "↑" or "↓" to select "Other" and press the "Enter" key.
4. Insert the driver diskette into drive A: and press the "Enter" key.
5. Choose "WinNT Promise AX8931A IDE Controller" from the list that appears on screen, then press the "Enter" key.
6. The Windows NT Setup screen will appear again saying "Setup will load support for the following mass storage devices:" The list will include "WinNT Promise AX8931A IDE Controller".

NOTE: If you need to specify any additional devices to be installed, do so at this time. Once all devices are specified, continue to the next step –

7. From the Windows NT Setup screen, press the Enter key. Setup will now load all device files and then continue the Windows NT installation.
8. After a successful installation, the “SCSI Adapter Setup” box will show that the “WinNT Promise AX8931A IDE Controller” driver has been installed.

### **Installing Drivers with Existing Windows NT 4.0**

**WARNING:** If you wish to use your current bootable drive with the Windows NT4 operating system on the AX8931A, perform the steps below while the boot drive is still attached to your existing onboard IDE controller. Do not attach any drives to your AX8931A until the steps below are complete.

1. Choose “Settings” from the “Start” menu.
2. Choose “Control Panel” from the “Settings” menu.
3. Double-click on the “SCSI Adapters” icon, which generates the “SCSI Adapters” dialog box.
4. Choose “Drivers,” and then press “Add.”
5. In the “Install Drivers” dialog box, press “Have Disk...”
6. When the “Install From Disk” appears, insert the “AX8931A Driver” CD in CD ROM. (Assume that CD ROM driver is D:)
7. Type “D:\NT4” in the text box, then choose “OK.”
8. When the “Install Driver” dialog box appears, select “WinNT Promise AX8931A IDE Controller” and then press “OK.”
9. When the “Select SCSI Adapter Option” dialog box appears, press “Install.”
10. After a successful installation, the “SCSI Adapter Setup” box will show that the “WinNT Promise AX8931A IDE Controller” driver has been installed.
11. Power off your system, and then attach your hard drive(s) (see page 5 for more details) to the AX8931A controller card.

## 3.4 Windows Me

### Installing Drivers During Windows Me Installation

The following details the installation of the AX8931A drivers while installing Windows Me (with the AX8931A controller card already in place). If you're installing the AX8931A drivers on a system with Me already installed, see "Installing Drivers with Existing Windows Me System."

1. Install Windows Me fully.
2. After installation, go the "Start" menu and choose "Settings."
3. From the "Settings" menu, choose "Control Panel."
4. In the "Control Panel" window, double-click on the "System" icon.
5. In the "System" window, choose the "Device Manager" tab.
6. In the hierarchical display under "Other Devices" is a listing for "PCI Mass Storage Controller." Choose it and then press the "Properties" button.
7. Choose the "Driver" tab in the "Properties" window, choose "Update Driver," and then press "Next."
8. Choose "Specify the location of the driver (Advanced)," then press "Next".
9. Insert the AX8931A Driver diskette into the A: drive.
10. Choose "Specify a Location," and then type "A:\WIN9X-ME" in the text box.
11. Press the "Next" button. A message informing you that Windows Me has found "Win9x-ME Promise AX8931A IDE Controller" should appear.
12. Press "Next," then "Finish," then "Yes" when asked if you want to restart your computer. Be sure to remove the diskette from drive A:.

### **Installing Drivers with Existing Windows Me System**

The following section details the installation of AX8931A drivers on a system that has Windows Me already installed and running. If you're installing the AX8931A drivers on a system during an installation of Windows Me, see "Installing Drivers During Windows Me Installation."

1. After installing the AX8931A controller card and configuring the hard drives, power up the system and boot.
2. The "Add New Hardware Wizard" will appear, informing you that it has found a "PCI Mass Storage Controller."
3. Click on "Next," and from the generated list box, choose "Specify the location of the driver (Advanced)."
4. Click on "Next," and from the generated choices, choose "Specify a location."
5. Insert the "AX8931A Driver" diskette in drive A:.
6. Type "A:\WIN9X-ME" in the text box that appears.
7. Click on "Next." A message informing you that Windows Me has found "Win9x-ME Promise AX8931A IDE Controller" should appear.
8. Click on "Next," and then on "Finish."
9. Choose "Yes" when asked if you want to restart your computer. Be sure to eject the diskette from drive A:.

### **Confirming Driver Installation in Windows Me**

To confirm that the driver has been properly loaded in Me, perform the following steps:

1. Choose "Settings" from the "Start" menu.
2. Choose "Control Panel," and then double-click on the "System" icon.
3. Choose the "Device Manager" tab, and then click the "+" in front of "SCSI & RAID controllers." "Win9x-ME Promise AX8931A IDE Controller" should appear.

## 3.5 Windows 98

### Installing Drivers During Windows 98 Installation

The following details the installation of the AX8931A drivers while installing Windows 98 (with the AX8931A controller card already in place). If you're installing the AX8931A drivers on a system with Windows 98 already installed, see "Installing Drivers with Existing Windows 98."

1. After installing the AX8931A controller card and configuring the hard drive(s), partition and format your hard drive(s), if necessary.
2. Install Windows 98 normally.
3. After installation, go the "Start" menu and choose "Settings."
4. From the "Settings" menu, choose "Control Panel."
5. In the "Control Panel" window, double-click on the "System" icon.
6. In the "System" window, choose the "Device Manager" tab.
7. In the hierarchical display under "Other Devices" is a listing for "PCI Mass Storage Controller." Choose it and then press the "Properties" button.
8. Choose the "Driver" tab in the "Properties" window, choose "Update Driver," and then press "Next."
9. Choose "Search for a better driver than the one your device is using now (recommended)," then press "Next."
10. Insert the "AX8931A Driver" diskette into the A: drive.
11. Choose "Specify a Location," and then type "A:\WIN9X-ME" in the text box.
12. Press the "Next" button. A message informing you that Windows has found "Win9x-ME Promise AX8931A IDE Controller" should appear.
13. Press "Next," then "Finish," then "Yes" when asked if you want to restart your computer. Be sure to remove the diskette from drive A:.

### **Installing Drivers with Existing Windows 98**

The following section details the installation of AX8931A drivers on a system that has Windows 98 already installed. If you're installing the AX8931A drivers on a system during a Windows 98 installation, see "Installing Drivers During Windows 98 Installation."

1. After installing the AX8931A controller card and configuring the hard drives, power up the system and boot Windows.
2. The "Add New Hardware Wizard" will appear, informing you that it has found a "PCI Mass Storage Controller."
3. Click on "Next," and from the generated list box, choose "Search for best driver for your device (Recommended)".
4. Click on "Next," and from "PCI Mass Storage Controller" choose "Finish"
5. Insert the "AX8931A Driver" diskette in drive A:.
6. Click on "Next," and from the generated choices, choose "Specify a location."
7. Type "A:\WIN9X-ME" in the text box that appears.
8. Click on "Next." A message informing you that Windows has found "Win9x-ME Promise AX8931A IDE Controller" should appear.
9. Click on "Next," and then on "Finish."
10. Choose "Yes" when asked if you want to restart your computer. Be sure to eject the diskette from drive A:.

### **Confirming Driver Installation in Windows 98**

To confirm that the driver has been properly loaded in Windows 98, perform the following steps:

1. Choose "Settings" from the "Start" menu.
2. Choose "Control Panel," and then double-click on the "System" icon.
3. Choose the "Device Manager" tab, and then click the "+" in front of "SCSI controllers." "Win9x-ME Promise AX8931A IDE Controller" should appear.



## 3.6 Windows 95

### Installing Drivers During New Windows 95 Installation

1. After installing the AX8931A controller card and configuring the hard drives (see "Controller Card Installation" on page 5), partition and format your hard drive(s), if necessary.
2. Install Windows 95 normally.
3. After installation, go to the "Start" menu and choose "Settings."
4. From the "Settings" menu, choose "Control Panel."
5. In the "Control Panel" window, double-click on the "System" icon.
6. In the "System" window, choose the "Device Manager" tab.
7. In the hierarchical display under "Other Devices" is a listing for "PCI Mass Storage Controller." Choose it and then press the "Properties" button.
8. Choose the "Driver" tab in the "Properties" window, and then press the "Update Driver" button.
9. When asked if you want Windows to search for the driver, choose "Yes (recommended)."
10. Insert the "AX8931A Driver" diskette into the A: drive, then press "Next."
11. When Windows informs you that it was unable to find the drivers, press "Other Locations..."
12. In the "Select Other Location" dialog box, type "A:\WIN9X-ME".
13. Press "OK." Windows should inform you that it has found "Win9x-ME Promise AX8931A IDE Controller".
14. Press "Finish." (If Windows can't find the "ULTRA.MPD" file, type "A:\ WIN9X-ME" in the "Copy files from:" text box).
15. Choose "Yes" when asked if you wish to restart the system, and remove the diskette.

### **Installing Drivers with Existing Windows 95**

1. After installing the AX8931A controller card and configuring the hard drives (see "Hardware Installation" on page 5), power up the system and boot Windows.
2. The "Update Device Drive Wizard" will appear, informing you that it has found a "PCI Mass Storage Controller."
3. Insert the "AX8931A Driver" diskette in drive A:.
4. Click on "Next." Windows will inform you that it has found the "Win9x-ME Promise AX8931A IDE Controller"
5. Click on "Finish," and when prompted to insert the "AX8931A Driver" diskette, click on "OK."
6. If a message informing you that the file "ULTRA.MPD" cannot be found, go to the "Copy files from:" text box and type: "A:\WIN9X-ME".
7. Choose "Yes" when asked whether you want to start your computer. Be sure to remove the diskette from drive A.

### **Confirming Driver Installation in Windows 95**

To confirm that the driver has been properly loaded in Win 95/98, perform the following steps:

1. Choose "Settings" from the "Start" menu.
2. Choose "Control Panel," and then double-click on the "System" icon.
3. Choose the "Device Manager" tab, and then click the "+" in front of "SCSI controllers." "Win9x-ME Promise AX8931A IDE Controller" should appear.

## Chapter 4

### Troubleshooting

#### Problem 1:

The following warning appears in the AX8931A BIOS: “[WARNING] BECAUSE OF 40-CONDUCTOR CABLE(S) USED, Dx WOULD BE DOWN TO ULTRA33 MODE. PLEASE USE 80-CONDUCTOR CABLE(S) IF ULTRA66 OR ABOVE MODE WANTED”.

#### Solution:

A 40-wire, 40-pin IDE cable is being used with an Ultra ATA/133 capable hard drive in the AX8931A hard drive setup. To access Ultra ATA/133 timing (and take advantage of the full capabilities of your Ultra ATA/133 hard drive), you must use an 80-wire, 40-pin IDE cable. One 80-wire, 40-pin cable is included with the AX8931A package. The colored edge of the cable(s) indicates pin 1 and the blue cable connector must be attached to the AX8931A connector.

#### Problem 2:

Determining hard drive performance.

#### Solution:

During the AX8931A BIOS, the maximum transfer rate timing of the hard drive(s) connected to the AX8931A controller card will be displayed next to the model name of the hard drive. Example: “D0 Maxtor 4G160H8 LBA 152GB ULTRA DMA 6.” “D0” identifies the master drive on the primary IDE port 1 on the AX8931A controller card (**NOTE:** if there is more than one device attached the next device will be designated as D1, and so on); “Maxtor 4G160H8” represents the model name/number; “LBA” signifies that the drive size is being translated so that the system can make use of the drive’s full capacity; “152GB” represents the drive’s capacity; “ULTRA DMA 6” identifies the maximum transfer rate. Slower transfer rates include: “ULTRA DMA (0, 1, 2, 3, 4, or 5)”; “DMA (0, 1, 2, or 3)”; “PIO (0, 1, 2, 3, or 4).” To make full use of the performance enhancements of AX8931A, use only Ultra DMA 6 drives.

**Problem 3:**

FDISK reports a much lower drive capacity if a single drive exceeds 64GB.

**Solution:**

The version of FDISK.EXE that is included with Windows 95/98/Me does not correctly report the capacity of drives that exceed 64GB. This is a cosmetic, not actual, limitation. Microsoft has an updated version of FDISK.EXE that corrects this problem. More information and the updated FDISK.EXE can be found at <http://support.microsoft.com>

**Problem 4:**

While booting Windows NT4.0, Windows 2000, or Windows XP during a floppyless install, the message "Inaccessible Boot Device" appears.

**Solution:**

The "F6" key was not pressed at the appropriate time. Reboot the system, and press the "F6" key when the message "Setup is inspecting your computer's hardware configuration..." appears in Windows NT4 or the message "Press F6 if you need to install third party SCSI or RAID driver" appears in Windows 2000 and XP.

**Problem 5:**

While booting Windows NT 4.0, Windows 2000, or Windows XP during a CD-ROM disk install, the message "No Hard Drives Found" appears.

**Solution:**

The "F6" key was not pressed at the appropriate time. Reboot the system, and press the "F6" key when the message "Setup is inspecting your computer's hardware configuration..." appears or the message "Press F6 if you need to install third party SCSI or RAID driver" appears in Windows 2000 and XP.

**Problem 6:**

Miscellaneous problems such as the AX8931A BIOS not appearing during boot, the AX8931A driver not loading, or slow data transfer rates.

**Solution:**

Move the AX8931A to a different PCI slot.

## Chapter 5

### BIOS Upgrade

The following instructions detail the steps that need to be taken in order to upgrade the BIOS of your AX8931A controller card. BIOS (Basic Input/Output System) controls the booting operation of the AX8931A. If you receive information regarding an update for the AX8931A BIOS (from the Promise Technology® website or technical support), download the update and then follow these instructions to install the update.

**NOTE:** Before updating the AX8931A BIOS, you can save the old BIOS by choosing option 1 in the main menu ("Backup Current ROM BIOS to File"). Type the path and file name where you wish to save the old BIOS (i.e., "A:\OLDBIOS.BIN").

1. Create a bootable DOS floppy, and copy the file "PTIFLASH.EXE" and the file containing the updated BIOS to the floppy diskette.
2. The file "PTIFLASH.EXE" is a DOS program; a DOS boot floppy diskette must be used to run the program.
3. At the "A:\>" prompt, type "PTIFLASH." The main menu should be generated.
4. In the main menu, choose option 2 - "Update BIOS From File." In the pop-up dialog box that appears, enter the path and name of the BIOS file you wish to update to (i.e., "A:\ULBIOS.BIN").

**NOTE:** If, after typing in the path and file name while trying to update the BIOS, you receive the message "This file is not found," make sure you've entered the correct path and file name.

1. The utility will then update the AX8931A BIOS, and an "Update Success" message will appear.
2. Restart the system.

**NOTE:** When the AX8931A BIOS appears, make sure that the BIOS version is the new version.

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