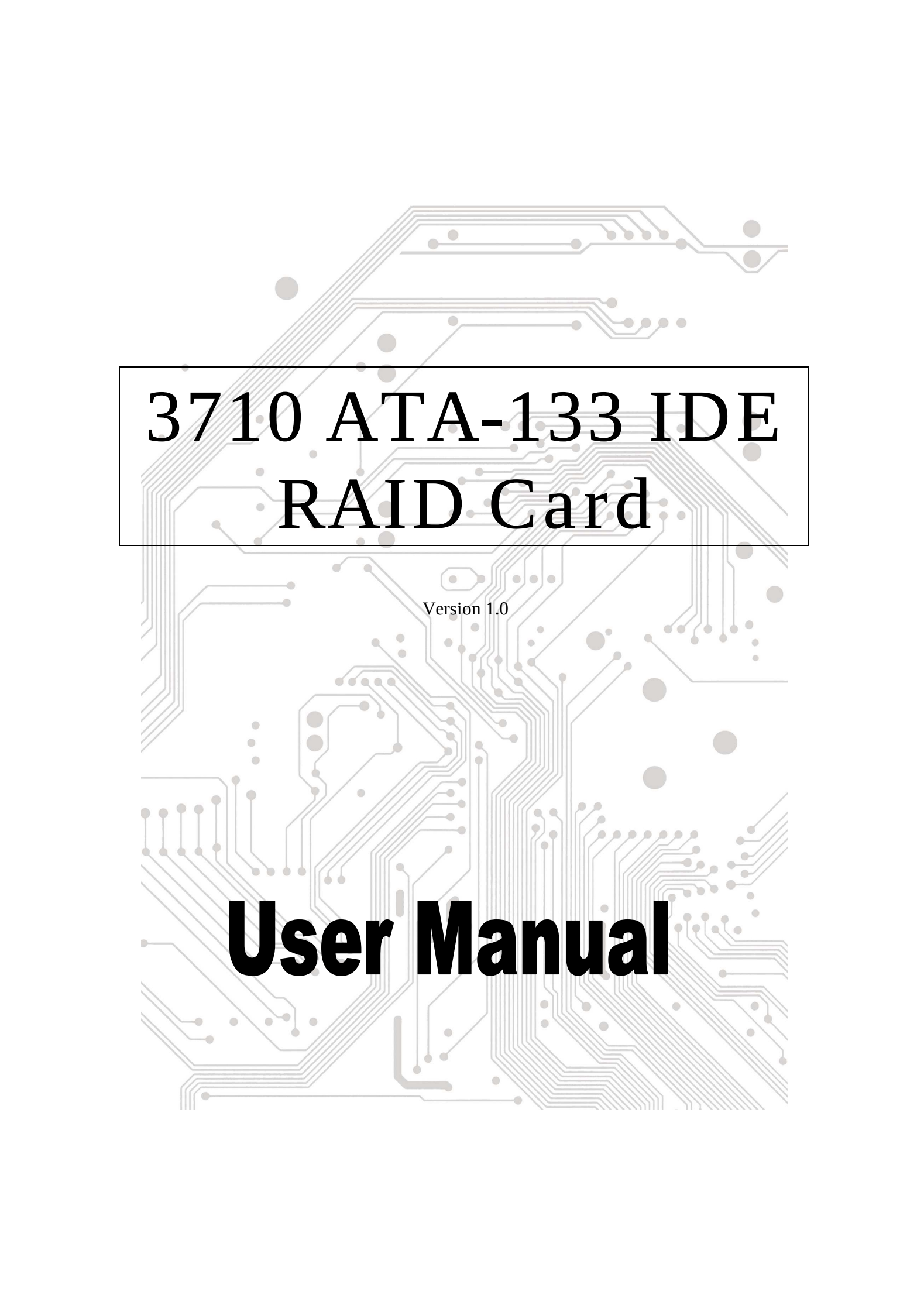


The background of the entire page is a light gray, stylized circuit board pattern. It features a complex network of thin, gray lines representing traces, with various circular and rectangular shapes representing components or vias. The pattern is dense and covers the entire area.

3710 ATA-133 IDE RAID Card

Version 1.0

User Manual



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Introduction

The PCI Ultra ATA/133 IDE RAID Controller Card provides an inexpensive way for users to increase the speed or fault-tolerance of their PC. RAID levels 0 (striping), 1 (mirroring) and 0+1 (mirroring a stripe set) are supported on up to 4 IDE drives. The card supports Ultra ATA/133 hard drives for maximum performance, but is also compatible with older drives. This card is the perfect solution for adding the redundancy of mirroring to small business file servers, or improving the drive speed on workstations with striping.

1.0 Features

The PCI is a true 32-bit PCI-Bus USB card. It supports the following I/O features:

- PCI “Plug and Play” compatibility
- Fully Ultra ATA/133 compatible
- Supports bus master DMA at 133Mbytes/sec PCI burst rate
- Supports maximum IDE/ATA data transfer rate of 133 MB/sec
- Supports to to 4 IDE/ATA devices
- Fully backward compatible with Ultra ATA/66, Ultra ATA/33, EIDE/Fast ATA-2, IDE and ATAPI devices
- Compliant to ATA/ATAPI-5 specification and PCI specification version 2.1
- Auto identifies and configures drive type
- Auto detects and supports Ultra Mode (ATA/EIDE) transfers

2.0 System Requirements

- The device must support Ultra ATA/133 mode.
- The motherboard and system BIOS or an add-on IDE controller card must support Ultra ATA/133 mode.
- The operating system must support Direct Memory Access (DMA) such as Windows 98.
- The IDE cable must be 80 wires/40-pin and the length of the cable should not exceed 18 inches (44.1 cm).
- Driver support Windows 98/ME, Windows NT4.0, Windows 2000 and Windows XP.

3.0 Installing the ATA/133 IDE Controller Card

1. Turn off your computer and all external devices connected to it.
2. Disconnect your computer from the power sources.
3. Open the computer case.
4. Find an available PCI slot (these are usually the white slots found on the motherboard) and remove the slot bracket. Save the bracket screw for later.
5. Align the ATA/133 IDE controller card horizontally with respect to the PCI slot and insert it into the slot firmly and evenly. Take care not to force it into the slot. Once you have properly positioned the ATA/133 IDE controller card into the slot, fasten it to the computer case with the bracket screw you have saved.
6. Connect the HDD LED connector of the computer case to the HDD Busy LED (J4) connector on the ATA/133 IDE controller card.
7. Connect any Ultra DMA/133 device to the connector(s) of the ATA/133 IDE controller card with the 80 wires/40-pin IDE cable. The BLUE connector of the 80 wires/40-pin IDE cable must be connected to the IDE connector on the ATA/133 IDE controller card.
8. Replace the computer case. Make sure to reconnect all external devices to your computer.

4.0 Driver Installation

◆ Windows 2000 Operating System

After the board has been properly installed, when the computer is powered on, the OS will automatically search for new devices. When the new board is found, a window will appear asking if you will want to load a new driver.

Click **Yes**, and a window requesting the specific driver will appear. The driver is located on the provided floppy disk. Insert the floppy disk into the floppy disk drive and click **Browse**.

Most floppy disk drives are configured as **[A:]**. Choose the **[A:]** drive in your browser and the **PnP680r.sys** file should appear. Select the file and click **Open**:

Verify that the directly listed in this window is A: and click **OK**.

Now, a window verifying that the new Driver for the board has been properly installed. Click **Finish**.

It is always good to Restart the computer after an installation. Click **Yes**.

To install Medley, use Windows InstallShield by performing the following:

1. After computer restarts, insert floppy disk in floppy disk drive.
2. Double-click on My Computer.
3. Double-click on 3 1/2 Floppy [A:].
4. Double-click on Install SilConfig.exe.
5. Follow on-screen instructions to complete installation. Note: Do NOT install in the Start Up folder. Choose the Default folder (normally Accessories or Administrative Tools or some-thing similar).

◆ Windows NT Operating System

Windows NT does not have an automatic “Find Device” setting and so after the operating system boots, click on the **Start** button located at the bottom left hand corner of the Desktop, select **Settings** and then **Control Panel**.

Find and click on the **SCSI Adapters**.

Click **Add**.

The next window is asking for the location of the driver to be installed. Since the driver is on the provided floppy disk, insert the floppy in the floppy disk drive and click **Have Disk**.

The next window is asking for the location of the driver. Most floppy disk drives are configured as [A:]. To verify, click on **Browse**.

The next window verifies that the appropriate file is located on [A:]. Select the file **Oemsetup.inf** and click **Open**.

[A:] should appear in the window. Click **OK**.

The next window allows you to select which driver to install. Only one driver should appear in this window. Select **Sil 0680 Ultra133 Raid Controller** and click on **OK**.

It is always good to Restart the computer after an installation. Click **Yes**.

To install CMD Medley GUI, use Windows InstallShield by performing the following:

1. After computer restarts, insert floppy disk in floppy disk drive.
2. Double-click on **My Computer**.
3. Double-click on 3 1/2 Floppy [A:].
4. Double-click on **InstallMedley.exe**.
5. Follow on-screen instructions to complete installation. **Note:** Do **NOT** install Medley in the Start Up folder. Choose the Default folder (normally Accessories or Administrative Tools or something similar).

◆ Windows 98/Me Operating System

With the board newly installed, as Windows 98/Me boots, the New Device will be detected and the Add New Hardware Wizard window will appear. Follow the instructions in each window, using the driver installation files (PnP680r.mpd) on the provided floppy disk as necessary.

To install CMD Medley GUI, use Windows InstallShield by performing the following:

1. After computer restarts, insert floppy disk in floppy disk drive.
2. Double-click on **My Computer**.
3. Double-click on **3 1/2 Floppy [A:]**.
4. Double-click on **Install SiIConfig.exe**.
5. Follow on-screen instructions to complete installation. **Note:** Do **NOT** install in the Start Up folder. Choose the Default folder (normally Accessories or Administrative Tools or something similar).

5.0 RAID Explained

◆ RAID - Redundant Array of Independent Disks

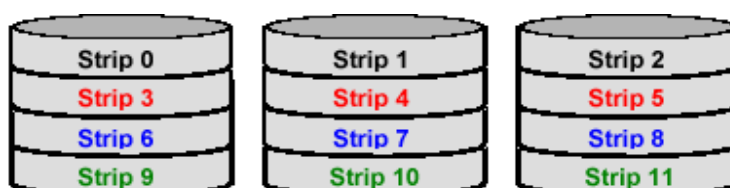
RAID technology manages multiple disk drives to enhance I/O performance and provide redundancy in order to withstand the failure of any individual member, without loss of data.

Medley provides three RAID Set types, Striped (RAID 0), Mirrored (RAID 1), and Mirrored-Striped (RAID 0+1).

◆ Disk Striping (RAID 0)

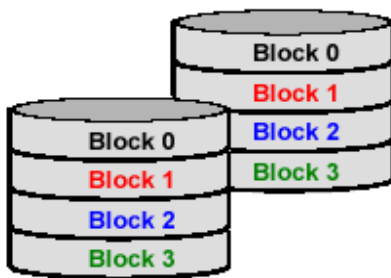
Striping is a performance-oriented, non-redundant data mapping technique. While Striping is discussed as a RAID Set type, it is actually does not provide fault tolerance. With modern ATA bus mastering technology, multiple I/O operations can be done in parallel, enhancing performance. Striping arrays use multiple disks to form a larger virtual disk.

This figure shows a stripe set using three disks with stripe one written to disk one, stripe two to disk two, and so forth.



◆ Disk Mirroring (RAID 1)

Disk mirroring creates an identical twin for a selected disk by having the data simultaneously written to two disks. This redundancy provides instantaneous protection from a single disk failure. If a read failure occurs on one drive, the system reads the data from the other drive.



◆ Mirrored-Striping (RAID 0+1 also known as RAID 10)

A Mirrored-Striped Set does just what it says, combining both Striping and Mirroring technologies to provide both the performance enhancements that come from Striping and the data availability and integrity that comes from Mirroring. When data is written to a Mirrored-Striped Set, instead of creating just one “virtual disk” as Striping would do, a second, Mirrored “virtual disk” is created as well.

About creating or deleting RAID step, please see the 3700/3710 PDF file on the Driver CD.