6VIA83

User's Manual Version 1.0

The information presented in this publication has been made carefully for reliability; however, no responsibility is assumed for inaccuracies. Specifications are subject to change without notice.

IBM, PC/AT, and PC/XT are trademarks of International Busi-

ness Machines Corporation.

Pentium is a trademark of Intel Corporation

AWARD is a registered trademark of Phoenix Sofftware Inc.

MS-DOS and WINDOWS NT are registered trademarks of

Microsoft Corporation.

Trademarks and/or registered trademarks are the properties of their respective owners.

Table of Contents

Chapter 1	Introduction	1
	How this manual is organized	1
	Package checklist	2
Chapter 2	Features	3
	Features of the mainboard	3
	The mainboard layout	6
Chapter 3	Installation	7
	System Installation Setups	9
	Static Electricity Precaution	9
	Jumper Settings10	0
	System Memory (DIMM modules)12	2
	DIMM Memory Installation13	3
	CPU Installation1	5
	Clearance Requirements16	6
	Fan Exhaust16	6
	External Connectors17	7
Chapter4	Audio Installation26	6
Note:		
	If there is any change in the content please	e
	refer to our website.Regarding the BIOS	
	setting & Driver installation, refer the	
	web site please.(www. acorp.com.tw)	



Introduction

How This Manual is Organized

This manual is divided into the following sections:

Chapter 1	Introduction	: Manual information and checklist.
Chapter 2	Features	: Information and Specifications con-
		cerning this mainboard.
Chapter 3	Installation	: Instructions on setting up the board.
Chapter 4	Audio Install	ation

Package Checklist

Please check that your package is complete . If you discover any item damaged or missing , please contact with your retailer immediately.

- The 6VIA83 mainboard.
- $\frac{1}{2}$ 1 x IDE UDMA66 ribbon cable.
- \mathbb{Z} 1 x floppy ribbon cable.
- 6VIA83 support software: CD driver and utilites.
- This user's Manual



Features

Features of the 6VIA83 Mainboard

The 6VIA83 is designed for the PC user's who want many new key features processed by the fastest CPU in a economic package. This mainboard :

- **New general CPU support :**
 - Socket 370 for Intel PPGA/FC-PGA PII/PIII processor.
 - CPU clock select support for 66/100MHz and up to 133MHz

CPU bus speed configuration.

Chipset :

VIA APOLLO PRO+ chips with I/O subsystems.

Biggest memory capacity :

6VIA83 is equipped with four DIMM socket to support (16MB, 32MB, 64MB, 128MB.256MB) 168 pin 3.3v SDRAM SPD(Special Presence Detect).Maximum memory up to 1024MB.

AGP for fast VGA solution :

AGP (Accelerator Graphic Port) will enhance & improve display performance and Application. The bus speed is 66 MHz .

ISA & PCI Expansion Slot :

Provide one 16 bit ISA, and five 32 bit PCI slots.

PCI Bus Master IDE Controller :

Comes with an on-board PCI Bus Master IDE, controller with two connectors that supports four IDE devices in two channels, Provides faster data transfer rate, and supports Enhanced IDE devices such as Tape Backup and CD-ROM devices(ATAPI). This controller supports PIO mode 3 and 4 (16.6MB/sec.), and Ultra DMA/66(66MB/Sec.), also supports ZIP100 and LS-120. BIOS support IDE CD-ROM or SCSI bootup.

Super Multi-I/O:

Provides two high-speed UART2 compatible serial ports (match NS16C550A compatible) and one parallel port with SPP,EPP and ECP capabilities. UART2 can also be directed from COM2 to the Infrared Module for wireless connections. Two floppy drives of either 5.25" or 3.5 "(1.25MB,1.44MB or 2.88MB) are also supported without an external card. Supports Japanese standard "Floppy 3 mode" (3.5" 1.25MB).

CPU built-in Level 2 Cache :

128/256KB Pipeline Burst Level 2 cache in the PII/III CPU processors.

WOL (Wake On LAN) :

Supports system power up from LAN ring up .

IrDA Port :

Support this serial fast communication up to 115.2Kbps.

Support Ring on by modem/Alarm on :

Support System power up from Modem ring up or timer of System. Required enabled in Ring on by modem and Alarm on in BIOS.

- To support CPU FAN On/Off and LED indicator under Suspend mode.
- **To support CPU temperature detect and Alarm warning by sound. (option)**
- **Dimension : 30.4 cm x 20.5 cm**
- Supports 16-bits stereo audio controller. Sound Blaster 16/ PRO compatible with stereo voice up to 48 KHz sampling rates. Dual channel game port. (supports Microsoft game-pad up to 8 ports). (option)

The 6VIA83 Mainboard layout





Installation

Jumper

Jumper

Refer to page

• JP5	- Real time Clock RTC clean	11
◆ FAN1	- FAN CONN. for CPU	19
◆ FAN2	- FAN CONN. for AGP	19
◆ FAN3	- FAN CONN. for MB	19
• J3	- LAN Card Wake Up	24
◆ JP6,JP7	- CPU Type Selection	25
◆ J6,JP1	- Onboard Sound Function	25

Expansion Slot

Which page

 168 pin DIMM Socket 	12
Socket 370	15
 AGP (Accelerator Graphic port) SLOT 	17
 PCI SLOT 1,2,3 -32bits PCI SLOT 	17
 ISA SLOT1 - 16bits ISA SLOT 	17

Connectors

Refer to page

• KB1(UI	P) - PS/2 Mouse port.	18
• KB1(DI	P) - PS/2 Keyboard port	18
• USB	- USB1,2 Port	18
 COM1 	- COM 1 serial port	18
• COM2	- COM 2 serial port	18
◆ LPT1	- Parallel port	18
 FDC1 	- FLOPPY connector	18
 IDE1 	- Primary IDE connector	20
 IDE2 	- Secondary IDE connector	20
• IR(J1)	- IrDA connector	21
• J5	- HDD LED	22
• J5	- Reset Switch	22
• J5	- Speaker Connector	23
• J5	- Power LED	23
• J5	- ATX Power switch	23
• PW1	- ATX Power Connector	23

System Installation Setup

Before using your computer, you must finish the following steps:

- 1. Set jumpers on mainboard
- 2. Install SDRAM module.
- 3. Install the Processor.
- 4. Connect Ribbon Cables, Cabinet Wires, and Power supply.
- 5. Install Add on Cards.
- 6. Setup the BIOS software.

Static Electricity Precaution

- Keep the mainboard and other system components in their antistatic packaging until you are ready to install them.
- Do all preparative work on a static-free surface with the main board components facing up.
- Tuplug your computer when working on the inside.
- S Wear an Anti-static wrist strap.
- Hold the system components, boards or cards by its edges only. Be careful not to touch any of IC chips, circuitry, contacts or connections, especially gold contacts on the mainboard.

Jumper Settings

Jumpers

Several hardware setting are made through the use of jumper caps to connect jumper pins (Jxx) on the mainboard. See " Map of the mainboard" for locations of jumpers.

The jumper settings will be described numerically such as [----], [1-2], [2-3] for no connection, connect pins 1 & 2, and connect pins 2 & 3 respectively. Pin 1 for our mainboard is always on top one or on the left when holding the mainboard with the keyboard away from yourself. "P1" is written besides pin 1 on jumper with three pins. The jumpers will also be shown graphically such to connect pin 1&2 🛄 to connect 2&3. Jumpers with two pins will be sho for Short (on)and for Open (off).For manufacturing simplicity it may be sharing pins from other groups. Use the diagrams in this manual instead of following the pin layout on the board. Settings with two jumper numbers require that both jumpers be moved together. To connect the pin, simply place a plastic jumper cap over the two pins as diagrammed.

Real Time Clock (RTC) RAM - JP5 :

The CMOS RAM is powered by the onboard button cell battery. To clear the RTC data:

(1)Turn off your computer, (2) Move this jumper to "3-4Pin Clear Data", (3) Move the jumper back to "Default", (4) Turn on your computer, (5) Hold down <Delete > during bootup and enter BIOS setup to re-enter user Preferences.



System Memory (DIMM Module)

This **6VIA83** main board supports four 168 pins DIMM of 16 MB, 32 MB, 64 MB, 128 MB ,256MB to form a memory size between 16MB to 256MB.

The DRAM can be either 45ns,50ns,or 60ns 3.3v SDRAM,and 3.3v Enhanced Data Output (EDO) RAM.

Install memory in any or all Banks in Combination:

Bank	Memory module	
DIMM 1	16MB,32MB,64MB,128MB,256MB	
(Bank 0-1)	168 pin, 3.3v SDRAM / EDO RAM	
DIMM 2	16MB,32MB,64MB,128MB,256MB	
(Bank 2-3)	168 pin 3.3v,SDRAM / EDO RAM	
DIMM 3	16MB,32MB,64MB,128MB,256MB	
(Bank 4-5)	168 pin 3.3v, SDRAM / EDO RAM	
DIMM 4	16MB,32MB,64MB,128MB,256MB	
(Bank 6-7)	168 pin 3.3v,SDRAM / EDO RAM	
	Total System Memory(Max 1024MB)	

Note :

- The DIMM Slot does not support any 5v EDO DIMM module.
- The DIMM Slot does not support any 5v SDRAM DIMM module.
- Memory speed setup is required through "Auto Configuration" in BIOS chipset Setup of BIOS SOFTWARE. If several speed memories are used, You must set Auto Configuration to low. Example If both 50ns, 60ns are used, Please set Auto configuration to 60ns.
- It's allowed any DIMM module put in any DIMM slot. It's allowed there are different capacity DIMM module in all DIMM slot.

DIMM Memory Installation

Insert the module (s) as shown. Because the number pins are different on either side of the breaks, the module will only fit in the orientation as shown. SDRAM DIMM modules have different pin contacts on each side and therefore have a higher pin density.



The Dual Inline Memory Module (DIMM) memory module must be 3.3v Extended Data Output (EDO) DRAM or SDRAM. You can identify the type of DIMM module by the illustration below:



168 Pin DRAM DIMM Notch Key Definitions

The notch on the DIMM module will shift between left, center, or right to identify the type and also to prevent the wrong type to be inserted into the DIMM slot on the Mainboard. You must ask your retailer for Specifications before purchasing.

Four clock signals are supported on this mainboard

CPU Installation

The motherboard provides a ZIF socket 370. The CPU that came with the motherboard should have a fan attached to it to prevent overheating. If this is not the case then purchase a fan before you turn on your system.

To install a CPU, first turn off your system and remove its cover. Locate the ZIF socket and open it by first pulling the lever sideways away from the socket then upwards to a 90-degree right angle. Insert the CPU with the correct orientation shown. The notched corner should point towards the end of the lever. Because the CPU has a corner pin for two of the four corners, the CPU will only fit in the orientation as shown.



Selecting the CPU Frequency

CPU voltage auto-detection and allow user to set CPU frequency through BIOS setup, no jumper or switch is needed. The correct CPU information is saved into EPROM, with these technologies, the disadvantages of Pentium base jumper-less design are eliminated. There will be no worry of wrong CPU voltage detection and no need to re-open the housing if CMOS battery loss. The CPU frequency selection is set by going into:

Choose "CPU SPEED SETTING" from the Main Menu and a screen with a list of items appears.

CPU Speed

Set to Manual user can use the next two items to decide the CPU speed.

CPU Ratio

This item lets you select the ratio of Core/Bus frequency. Have the following selection: 3x, 3.5x, 4x, 4.5x, 5x, 5.5x, 6x, 6.5x, 7. 0x, 7.5x, 8

CPU Freqency

This item lets you set external clock (bus clock). The possible settings are 66,100 and 133 MHZ....

Clearance Requirements

To maintain proper airflow once the processor is installed on the mainboard, the processor and fan heatsink require certain space clearances. The clearance above the processor must be at least 0.3 inches. The clearance on at least 3 of 4 sides of the processor and fan heatsink must be at least 0.2 inches. All cables (for Floppy drive, Hard drive,CD-ROM,and so on) must be routed clear of the processor and its airspace.

Fan Exhaust

The processor must be kept cool by using a processor with heatsink and fan attached . The temperature of the air filled with the fan/heatsink cannot exceed 45 $^{\rm o}C(113~^{\rm o}F)$. The ambient or room temperature must be below 37 $^{\rm o}C$ (99 $^{\rm o}F)$.

16 / Chapter 3 Installation

EXTERNAL CONNECTORS

Both Ribbon cable and Connectors on board are with direction signs to avoid that user insert wrong directions. On other hand, the ribbon cables should always be connected with the red stripe on the pin 1 of side of the connector.



1. PS/2 Keyboard port

This connection is for a standard keyboard using an PS/2 plug (mini DIN). This connector will not allow standard at AT size (large DIN) keyboard plugs. You may use a DIN to mini DIN adapter on standard AT keyboards.

2. PS/2 Mouse port

This system will direct IRQ12 to PS/2 mouse.

3. Serial Port COM 1 and COM 2 port

The two serial ports can be used for pointing devices or other serial devices. See "Onboard Serial Port" in chipset Feature Setup of the BIOS SOFTWARE.

NOTE:

Serial {D-type 9pin (F) } must be connected to the serial port.

4. Parallel Printer port

You can enable the parallel port and choose the IRQ through " Onboard Parallel Port" in Chipset. Feature Setup of the BIOS SOFTWARE.

5. Universal Serial BUS Ports 1 & 2

Two USB ports are available for connecting USB devices.

6. Floppy drive connector

This connector supports the provided floppy drive ribbon cable. After connecting the single end to the board, connect the two plus on the other end to the floppy drives.

7. FAN1, FAN2, FAN3 CPU Cooling Fan (FAN/PWR)

These connectors support cooling fans of 500mAmp (6Watt) or less. Orientate the fans so that the heatsink fins allow airflow to go across the onboard heat sink(s) instead of the expansion slots. Depending on the fan manufacturer, the wiring and plug may be different. The red wire should be positive, while the black should be ground. Connect the fan's plug to the board taking into consideration the polarity of this connector.



8. Primary / Secondary IDE connectors (Two 40-pin Blocks) These connectors support the provided IDE hard disk ribbon cable. After connecting the single end to the board, connect the two plugs at the other end to your hard disk no space(s). If you install two hard disks, you must configure the second drive to Slave mode by setting its jumper settings. BIOS now supports SCSI device or IDE CD-ROM boot up (see "HDD Sequence SCSI/ IDE First" & "Boot Sequence" in the BIOS Features Setup of the BIOS SOFTWARE) (Pin 20 is removed to prevent inserting in the wrong orientation when using ribbon cables with pin 20 plugged).

Tip :

You may configure two hard disks to be both Masters using one ribbon cable on the primary IDE connector. You may install one operating system on an IDE drive and another on a SCSI drive and select right one the through BIOS Feature Setup.



9. IrDA / Fast IR-Compliant infrared module connector - IR(J1)

This connector supports the optional wireless transmitting and receiving infrared module. This module mounts to a small opening on system cases that support this feature. You must also configure the setting through UART2 Use Infrared" in Chipset Feature Setup to select whether UART2 is directed for use with COM2 or IrDA. Use the five pins as shown on the Back View and connect a ribbon cable from the module to the motherboard according to the pin definitions.





a. IDE activity LED (HD-LED)

This connector supplies power to the cabinet's IDE activity LED. Read and write activity by devices connected to the Primary or Secondary IDE connectors will cause the LED to light up.

b. Power LED Lead (PW_LED)

The system power LED lights when the system's power is on.

c. SMI Suspend Switch Lead (SMI)

This allows the user to manually place the system into a suspend mode or "Green" mode where systematic activity will be instantly decreased to save electricity and expand the life of certain components when the system is not in use. This 2-pin connector (see the figure below) connects to the case-mounted suspend switch. If you do not have a switch for the connector, you may use the "Turbo Switch" since it does not have a function. SMI is activated when it detects a short to open moment and therefore leaving it shorted will not cause any problems. It may require one or two pushes depending on the position of the switch. Wake-up can be controlled by settings in the BIOS but the keyboard will always allow wake-up (the SMI lead cannot wake-up the system). If you want to use this connector, "Suspend Switch" in the Power Management Setup of the BIOS SOFT-WARE section should be on the default setting of Enable

d. Reset Switch Lead (RST)

This 2-pin connector connects to the case-mounted reset switch for rebooting your computer without having to turn off your power switch. This is a preferred method of rebooting in order to prolong the life of the system's power supply.

e. Speaker Connector (SPEAKER)

This 4-pin connector connects to the case-mounted speaker.

f. ATX Power Switch (PW_BN)

The system power is controlled by a momentary switch connected to this lead. Pushing the button once will switch the system ON. The system power LED lights when the system's power is on

11. ATX Power Supply Connector (20-pin block) - PW1

This connector connects to a ATX power supply. The plug from the power supply will only insert in one orientation because of the different hole sizes. Find the proper orientation and push down firmly making sure that the pins are aligned.

IMPORTANT:

Make sure that the ATX power supply can take at least 10mAmp load on the 5Volt standby lead (5VSB). You may experience difficulty in powering on your system without this.

Pin	Description	Pin	Description
1	3.3V	2	3.3V
3	GND	4	5V
5	GND	6	5V
7	GND	8	PW-OK
9	5VSB	10	12V
11	3.3V	12	-12V
13	GND	14	PS-ON
15	GND	16	GND
17	GND	18	-5V
19	5V	20	5V

12. CD Audio Connector- CD_IN1/CD_IN2

The 4-pin connectors enable the system to receive the audio output from the CD-ROM.



13. Wake Up On LAN : J3

This connector connects LAN cards and a Wake On LAN output. When the system is in soft-off mode LAN activity will power on the system.

14.CPU Type Selection -JP6,JP7

Current PCI bus in limited to 33MHz, socket370 Celeron processors limited to 66MHz, and SDRAM limited to the DIMM type 66/100/133MHz. Other settings are for experienced users only.



15. Onboard sound chip disable jumper : JP1,J6



Audio Installation

Audio Rack Introduction

The Audio Rack32 enables you to take advantage of your computer's audio capabilities with all of the controls conveniently in one compact space. You can play audio CDs, wave files (in .wav and .aud formats), and MIDI files (in .mid and .rmi formats). With the multisource Audio Mixer, you can then record your creations as wave files and edit them with the Audio Recorder.

26 / Chapter 4 Audio Installation

The AudioRack32 has six main parts:

- Command Center- customizes the appearance of the AudioRack32.
- Audio Mixer Controls the volume and balance of the AudioRack32 devices.
- Digital Audio Player- plays and records files in the .wav format.
- MIDI Player enables you to play MIDI files.
- Compact Disk Player enables you to play audio CDs on a CD-ROM.

In addition, the AudioRack32 has a miniature mode enabling you to control the AudioRack32 while using minimal screen space.

The Audio Recorder is a separate application from the AudioRack32. It can be used to add effects and edit files recorded with the Digital Audio Player or by the Audio Recorder itself. The Audio Recorder can be launched from the AudioRack32's Digital audio Player or on its own.



The Command Center

Introduction

The command center controls the parts of the AudioRack32 that are displayed. You can display or hide any part of the AudioRack32 you choose, customizing its appearance to suit your needs or desires. It also displays information on the status of the different audio components.

The command center controls

Power - closes the AudioRack32 window.

- Stealth- enables the miniature mode, minimizing the AudioRack32 dissplay
- Dat displays or hides the Digital audio player.
- Help accesses On-line help
- CD displays or hides the compact disk player.
- Mixer displays or hides the audio Mixer.
- MIDI displays or hides the MIDI Player.

The Miniature Mode

Introduction

The miniature mode is designed to give you full control of the AudioRack32 while using a minimum of space, You are able to effectively use the AudioRack32 and still have enough room on your desktop to run other applications. In the miniature mode, you can play, pause, stop, and control the master volume of the audioRack32.

The Audio Mixer

Introduction

The Audio Mixer has two modes : playback mode and record mode. You can use these two modes to fully control the audio soources you are listening to or recording, how loud each of those sources are and how they are balanced. Each audio source has its own module with mute, balance and volume controls.

In addition, the audio mixer provides special effect controls for chorus, reverb, treble, bass, and 3-D effects.

The audio mixer controls

The two playback and record toggle buttons are used to switch between playback mode and record mode.

The effects toggle button switches the display to the effects panel where you can use the buttons to enable and disable effects and the sliders to control the amount of the effect.

There are a number of audio source modules displayed on the audio Mixer. The exact number displayed depends on the capabilities of your hardware. Each module has three controls.

- a slider to adjust the balance

- a slider to adjust the volume
- a button for muting

The Digital Audio Player

Introduction

The digital audio player enables you to play, record, and compress sound as .wave files. In addition, you can play audio files. The wave files use PCM, which is the Windows' audio file format. The .aud format uses ESPCM compression to produce an audio file. Files are written directly to your hard disk as you record, enabling you to record very large files. Your only limitation is the amount of free space on your hard disk. The voice activation feature is useful for recording any kind of intermittent audio. The digital audio player provides a choice of linear PCM (8 or 16 bit)recording. Note that you have additional options using the audio Recorder, which is invoked by the EDIT button.

The MIDI Player

Introduction

The MIDI Player enables you to play MIDI files with the .MID or .RMI file extensions. These MIDI (Musical Instrument Digital Interface) files can be produced by sequencer programs and then played back using the MIDI Player. You can also mix MIDI files with other audio sources. Or you can compile MIDI files in a playlist and play them back in any order you choose.

The MIDI player display

By clicking on the image of the floppy drive, you can display the length and name of the current MIDI file in the playlist. Click the display to return to the image of the floppy drive. The MIDI Player has an indicator to show when you are listening to ESFM. When the EXFM light to the left of the playlist button is lit, the MIDI Player is using ESFM synthesis. ESFM performs superiorquality music synthesis compared to that of traditional FM, producing richer timbre and greater depth of instrument voices. FM synthesis is a lower quality technology compared with Wave table synthesis. This card supports Wave table synthesis therefore ESFM is not supported on this card.

The Compact Disk Player

Introduction

If you have a CD-ROM drive, you can play audio CDs. Check your hardware manual about setting up CD audio hardware and drivers. The compact disk player uses intellignet CD playlist management : The compact disk player maintains a record of each CD you play. It remembers the last playlist you used with each CD and loads that playlist automatically whenever you insert that CD.

The Audio Recorder

The audio recorder enables you to record, compress, store, and play back voice, music, and other sound. It provides settings for sound attributes such as mono/stereo, compression level, and sampling rate, You can use it to embed sound objects in documents created in applications that support object linking and embedding (OLE).

The audio recorder's edit, record, and playback capabilities are compatible with the Windows Sound Recorder and other recorders that record and play back in the PCM format, like the Digital Audio Player. The Audio Recorder can record and play back .wav and .aud files. The Audio Recorder allows a choice of compression from low, medium, and high ESPCM and ADPCM.

Release Notes

This information is provided for convenience only. Information here is subject to change without prior notic. View the installation CD for any updated information in Readme text files. The AudioRack also provides detailed online help (click the Help button on the Command Center)

Disable Eject Button On the CD Player

Under the Windows directory in the file "ajddrive.ini", there is a string "disableEjectButton=0" under the [cdplayer] section. If you would like to disable EJECT button on the CD player, you can change the value from 0 to 1. You need to close AudioRack and launch it again to let the new settings take effect.

Using AudioRack CD player as Default CD Player

During installation, you will be asked if you want to use AudioRack CD player as the default CD player. Normally Windows 95 CD player is the default and will automatically run when as audio CD is inserted into the CD-ROM. If you answer "Yes", the installation program will overwrite the value of the key[HKEY_CLASSES_ROOT] \audioCD\shell\play\command in the registry. You may switch back to Windows95 CD player by resetting this key value.

Configuring Playback Mixer

The onboard PCI audio device offers eight inputs for the playback mixer, including "Line", "Wave", "CD", "Synth", "Aux A", "Aux B", "Mic" and "Mono In". AudioRack can only display six of them at a time. You may configure the settings by modifying the file "auddrive. ini" in the Windows directory. Under the section [MixerRak], you can enable or disable the display of each input by setting its corresponding binary value to 1 (enable) or 0 (disable).

Install Software Wavetable (Winnndows 95/98)

Insert the Softwave Driver into your computer, run **Setup.exe** in the root directory. This will bring up the main menu. Click Install Softwave Wave Table. Select Install **ESS** Software Wavetable and click next.

When Setup has finished installing all the necessary files on your computer, it will prompt you to restart your computer.

Select yes, I want to restart my computer now and then click finish to restart your computer and complete setup.

Date : / /	Date : / /		
Technical Fault Report			
Motherboard: Serial No :		Checked by	
Hardware Config	uration Used		
CPU			
RAM			
Video Card			
I/O Controller			
Hard Drive			
Other Card			
Diagnostic Softw	are Used		
Fault Description			

Date : / /				
Technical Fault Report				
Motherboard: Serial No :	Checked by			
Hardware Configuration Used				
CPU				
RAM				
Video Card				
I/O Controller				
Hard Drive				
Other Card				
Diagnostic Software Used				
Fault Description				