

# **PRM-92V**

High Performance

Pentium II/III Mainboard

**User's Guide**



Edition 1.00  
© 1999 DTK Computer, Inc.

P/N: 155100-8807

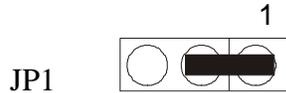




---

## WARNING

For the system to operate normally, please make sure JP1 of the mainboard is set as below. Refer to Fig. 2 in this manual for the location JP1.



If JP1 is shorted to 2-3, no CMOS data can be retained.

## CAUTION

The motherboard is an electrostatic sensitive device. Don't open or handle except at a static-free workstation.

## POWER OFF

It needs to hold the power switch 4 seconds to turn off the power, if "Delay 4 sec" selected in Power Management Setup of BIOS and ATX type power supply installed.

## TRADMARKS

Windows, MS-DOS, and MS Word are trademarks of Microsoft Corporation.

Novell, Netware are trademarks of Novell, Inc.

Lotus, 1-2-3, and Symphony are trademarks of Lotus Development Corporation.

PC, AT, PC-DOS, OS/2 and Presentation Manager are trademarks of IBM Corporation.

UNIX is the trademark of AT&T.

Pentium II/III and Celeron are registered trademarks of Intel Corporation.

All other brand and product names are trademarks or registered trademarks of their respective companies.

The information presented in this publication has been carefully checked for reliability; however, no responsibility is assumed for inaccuracies, whereas, specification is subjected to change without notice.

---

## JUMPERLESS QUICK SETUP PROCEDURES

1. Insert the Pentium® II/III or Celeron CPU correctly.
2. Plug in other configurations and restore the system.
3. Press <Del> key and switch on power to the system to enter BIOS setup.
4. Enter "CPU Speed Setting" Menu to setup CPU speed.  
Note: If you do not set CPU speed; your system will run at the lowest setting.
5. Save and exit BIOS setup, your system can now boot successfully.

## JUMPERLESS CPU SETUP MENU

Select <CPU Speed Setting> item from the main menu and enter the sub-menu:

ROM PCI/ISA BIOS (2A6LGD1D)  
CPU SPEED SETTING  
AWARD SOFTWARE, INC.

CPU Speed	: Manual	
CPU Ratio	: x2	
CPU Frequency	: 100MHZ	
Current CPU Tem.	: 30°C/ 86°F	
Current System Tem.	: 25°C/ 81°F	
Current CPUFAN1 Speed	: 3800RPM	
Current CPUFAN2 Speed	: 0RPM	
Vcore : 2.00V	2.5V : 2.49V	
3.3V : 3.28V	5V : 4.95V	
12V : 12.00V		
		ESC: Quit    ↑ ↓ → ←: Select Item
		F1: Help    PU/PD/+/-: Modify
		F5: Old Values (Shift)F2: Color
		F6: Load BIOS Defaults
		F7: Load Setup Defaults

For detail of CPU Front Side Bus and Multiplier Ratio, please refer to Appendix B.

## WARNING

Don't set CPU frequency higher than its working frequency. If you do, we will not be responsible for any damage caused.

---

# CONTENTS

<b>CHAPTER 1</b>	<b>INTRODUCTION</b>	<b>1</b>
<b>CHAPTER 2</b>	<b>JUMPER SETTINGS</b>	<b>5</b>
2.1	JUMPERS PRESENTATION	5
2.2	GRAPHICAL DESCRIPTION OF JUMPER SETTINGS	6
2.3	JP1-CLEAR CMOS DATA	7
2.4	JP2 – CONFIGURATION JUMPER FOR CPU SPEED PROTECTION	7
2.5	JP5, JP6 – CPU FRONT SIDE BUS FREQUENCY SETTING	7
2.6	JP7, JP8-AC97 & MC97 SELECTION	8
2.7	JP9- AMR MODEM CHANNEL SELECTION	8
2.8	MEMORY CONFIGUARTION	8
<b>CHAPTER 3</b>	<b>CONNECTOR CONFIGURATION</b>	<b>11</b>
3.1	J1 - ATX POWER SUPPLY CONNECTOR	12
3.2	J2 – MULTIPLE FUNCTION JUMPER	12
3.3	J10 - FLOPPY DRIVE CONTROLLER	12
3.4	J11, J12 - PRIMARY/SECONDARY IDE CONNECTORS	13
3.5	J13 - IrDA CONNECTOR	13
3.6	J14 – LAN WAKE UP CONNECTOR	13
3.7	J17, J18-CPU FAN, SYSTEM FAN - FAN CONNECTOR	14
3.8	J20 – CD-ROM AUDIO CONNECTOR (SONY)	14
3.9	J21-CD-ROM AUDIO CONNECTOR (MISUMI/ PANASONIC)	14
3.10	PS/2 KEYBOARD CONNECTOR	15
3.11	PS/2 MOUSE CONNECTOR	15
3.12	UNIVERSAL SERIAL BUS PORT 0 & 1	15
3.13	SERIAL PORT COM1 & COM2	15
3.14	PARALLEL PORT CONNECTOR	15
3.15	AUDIO PORT CONNECTOR	15
3.16	RETENTION MECHANISM KITS INSTALLATION GUIDE	16
3.16	OPTIONAL HEATSINK SUPPORT INSTALLATION GUIDE	19
<b>CHAPTER 4</b>	<b>AWARD BIOS SETUP GUIDE</b>	<b>21</b>
4.1	AWARD BIOS SETUP	21
4.2	STANDARD CMOS SETUP	23
4.3	BIOS FEATURES SETUP	24
4.4	CHIPSET FEATURES SETUP	26
4.5	POWER MANAGEMENT SETUP MENU	28
4.6	PNP/PCI CONFIGURATION	30
4.7	LOAD BIOS DEFAULTS	32
4.8	LOAD SETUP DEFAULTS MENU	32
4.9	CPU SPEED SETTING	32
4.10	INTEGRATED PERIPHERALS SETUP MENU	33
4.11	SUPERVISOR PASSWORD	35
4.12	USER PASSWORD	35

---

4.13	IDE HDD AUTO DETECTION	35
4.14	SAVE & EXIT SETUP MENU	36
4.15	EXIT WITHOUT SAVING MENU	36
<b>CHAPTER 5</b>	<b>DRIVER INSTALLATION</b>	<b>37</b>
5.1	4IN1 DRIVERS INSTALLATION	37
5.2	VT1611A DRIVER INSTALLATION	37
<b>CHAPTER 6</b>	<b>FLASH AND DMI UTILITY</b>	<b>39</b>
6.1	AWARD FLASH UTILITY	39
6.2	DESKTOP MANAGEMENT INTERFACE (DMI) OVERVIEW	41
<b>APPENDIX A</b>	<b>QUICK GUIDE</b>	<b>45</b>
<b>APPENDIX B</b>	<b>CPU CLOCK SPEED</b>	<b>46</b>

---

# CHAPTER 1

# INTRODUCTION

## Preface

The motherboard is a 4 layer, ATX form factor high performance mainboard. The system core logic is based on the VIA Apollo Pro133A chipset designed to support the system and memory buses from 66MHz to 133MHz.

## Features

### Processor

- Support Intel Pentium® III, Pentium® II and Celeron™ processors using Slot 1 connector
- The mainboard can run with following speeds: 233-600MHz or higher

### Chipset

- VIA VT82C694A (System Controller)
- VIA VT82C686A (PCI Super-I/O Integrated Peripheral Controller)

### Main Memory

- Three 168-pin DIMM sockets are provided for 3.3V SDRAM (PC100& PC133), VC SDRAM (Virtual Channel SDRAM) or EDO-DRAM (For 66MHz Front Size Bus CPU Only).
- DIMM type – 8M/16M/32M/64M/128M/256M
- Memory configurations up to 768M DRAM.
- ECC Function ensures data correction and integrity.
- Different DRAM types may be used in mixed combinations.

### I/O Interface:

- Two fast serial ports (16550)
- One EPP/ECP parallel port
- Built-in FDC supports 1.2M/1.44M/2.88M FDD
- PS/2 mouse and keyboard connectors
- Double Deck USB connectors
- IrDA supported

### Accelerated Graphics Port (AGP) Interface

- A.G.P. V2.0 compliant.
- A.G.P 1X/2X mode supported
- SideBand Addressing mode supported.

### Audio:

- AC-Link with AC97 compliant
- Software Audio with AC97 Codec

## **Chapter 1**

---

### **Modem:**

- AMR slot for software modem

### **Power Management Features:**

- True green functions: support SMM, SMI and CPU stop clock
- ACPI/PC97 compatible
- H/W Monitoring: CPU voltage, System Temp., Fan speed
- LAN, Modem Ring-in wakeup function
- Suspend To RAM Supported.

### **PCI IDE**

- On board supports PCI Master IDE Controller, two connectors support up to four IDE devices such as HDD, CD ROM drive and Tape Back-up drives, etc.
- PCI Master IDE controller supports PIO Mode 3 and 4 devices, I/O data transfer rate can be up to 16.6MB/s.
- Ultra DMA 33/66 Mode supported. Transfer rate can be up to 66MB/s.

### **System BIOS:**

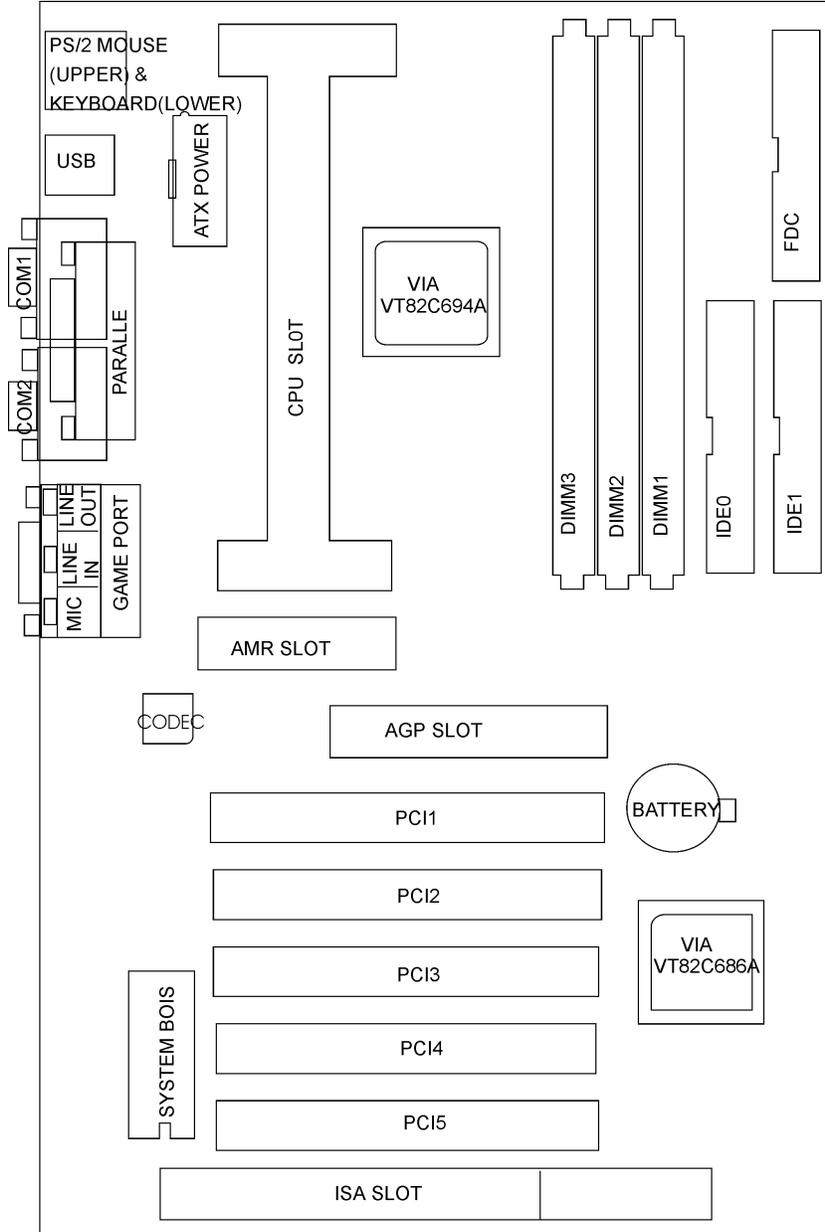
- Vendor - Award
- ROM Type - 256KB Flash ROM
- ACPI/Plug and Play support
- Built-in Trend™ ChipAway Virus Anti-Virus Program

### **Slots**

- One AGP slot
- Five PCI slots
- One ISA slots
- One AMR slot

### **Form Factor**

- Full ATX Size (305mm x 180mm) 4 Layer



**Fig. 1 Key Components of the Mainboard**



**2.1 JUMPERS PRESENTATION**

1 2 3

Pins 1 and 2 are shorted with a jumper cap.



1 2 3

Pins 2 and 3 are shorted with a jumper cap.



The jumper is shorted when the jumper cap is placed over the two pins of the jumper.



The jumper is open when the jumper cap is removed from jumper.

## 2.2 GRAPHICAL DESCRIPTION OF JUMPER SETTINGS

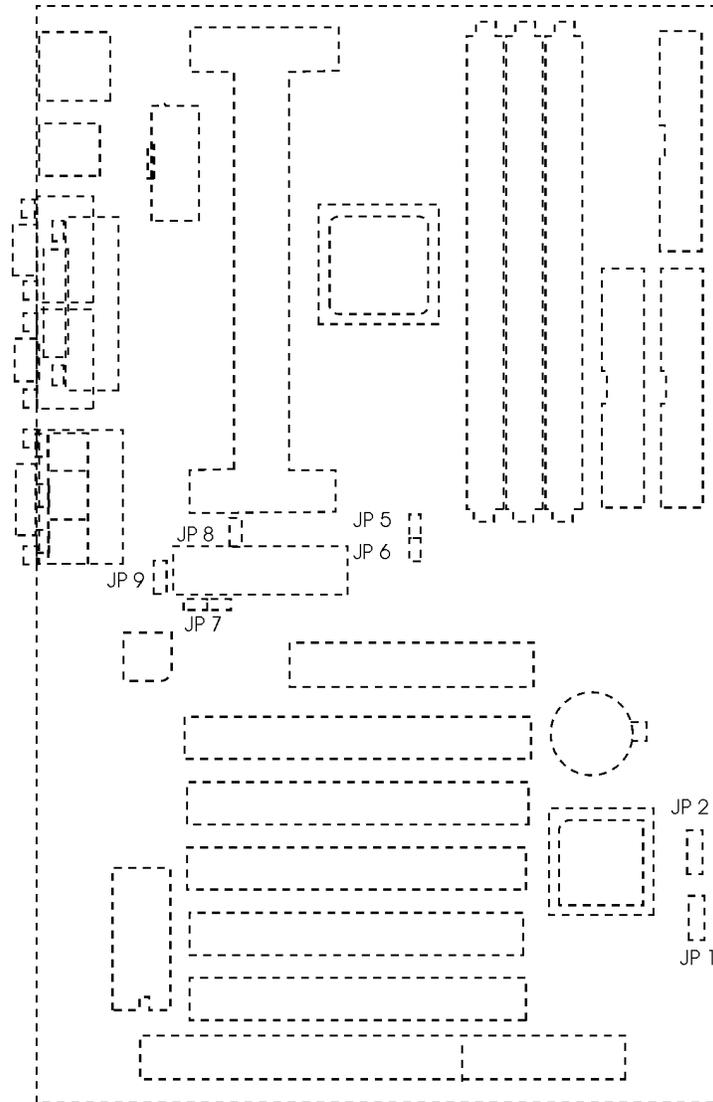


Fig. 2 Jumper Location of the mainboard

### 2.3 JP1-CLEAR CMOS DATA

JP1 is used to clear the content of the CMOS Data in the RTC. (build in PIIX4 chip)

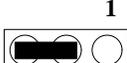
JP1	Description
	Normal
	Clear CMOS Data

Table1: Clear CMOS Data

### 2.4 JP2 – CONFIGURATION JUMPER FOR CPU SPEED PROTECTION

JP2 is used to control the CPU speed setting in BIOS. Whether it can change or not.

JP2	CPU Speed
	Selection
	Show Only

Table2: CPU Speed Protection

### 2.5 JP5, JP6 – CPU FRONT SIDE BUS FREQUENCY SETTING

JP5-6 is used to set the CPU Front Side Bus Frequency.

JP6	JP5	CPU Front Side Bus Frequency
		Auto detect according to the CPU installed.
		Always 100MHz for 66/100MHz bus CPU
		Always 133MHz for 100/133MHz bus CPU

Table3: CPU Front Side Bus Frequency

## 2.6 JP7, JP8-AC97 & MC97 SELECTION

JP7-8 is used to enable or disable AC97 onboard and MC97 on AMR card.

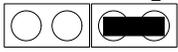
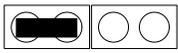
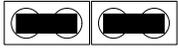
JP7	JP8	SELECTION
		AC97
		MC97
		AC97+MC97
		AMR

Table 4 AC97&MC97 Selection

## 2.7 JP9- AMR MODEM CHANNEL SELECTION

JP9 is used to set AMR modem channel. The default setting is secondary, and primary is not recommended.

JP9	Description
	Primary
	Secondary(Default)

Table 5 AMR Channel Setting

## 2.8 MEMORY CONFIGUARTION

The mainboard lets user upgrade system memory via DIMM sockets on the mainboard. On board memory is located in six banks: Bank 0 - 5. Three DIMM sockets are provided for EDO DRAM, Synchronous DRAM and Virtual Channel SDRAM.

---

## Jumper Settings

To enable the Error Checking and Correction (ECC) feature of the chipset, ECC DIMM has to be used and the “Memory Parity/ECC Check” on BIOS Features Setup Menu has to be set to “Enable”.

Three DIMM sockets are provided for the 3.3V SDRAM, VCM or EDO:

DIMM1 - used memory rows 0 and 1

DIMM2 - used memory rows 2 and 3

DIMM3 - used memory rows 4 and 5

Table 6 provides the typical memory configurations supported by the mainboard.

<b>Rows 0/1 (DIMM1)</b>	<b>Rows 2/3 (DIMM2)</b>	<b>Rows 4/5 (DIMM3)</b>
Installed	None	None
None	Installed	None
None	None	Installed
Installed	Installed	None
Installed	None	Installed
Installed	None	None
None	Installed	Installed
None	Installed	None
None	None	Installed
Installed	Installed	Installed

**Table 6**

The maximum memory size is up to 768MB. The size of each DIMM can be 8MB, 16MB, 32MB, 64MB, 128MB or 256MB.

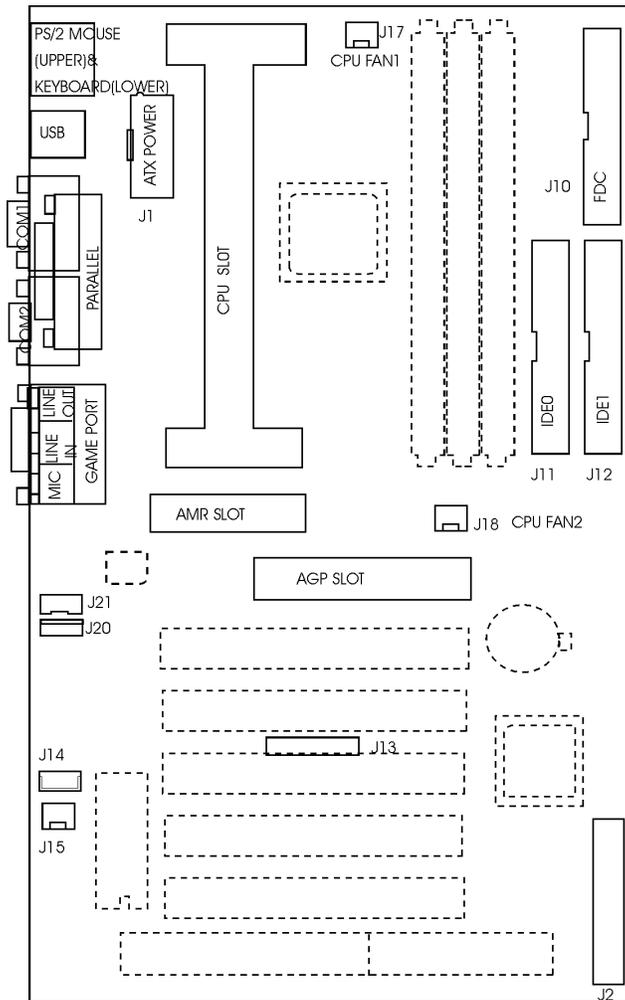


---

## CHAPTER 3

## CONNECTOR CONFIGURATION

Once the mainboard has been fastened into system case, the next step is to connect the internal cables. The internal cables are wire leads with plastic female connectors that attach to the connectors. The mainboard connectors have varying numbers of pins and are the points of contact between the mainboard and other parts of the computer.



**Fig 3 Connector Location**



### 3.4 J11, J12 - PRIMARY/SECONDARY IDE CONNECTORS

These connectors support the provided IDE hard disk ribbon cable. After connecting the single end to the board, connect the two plugs on the other end to your hard disk or other device.

### 3.5 J13 - IrDA CONNECTOR

J13 is an IrDA connector that uses UART2 as interface of IrDA Infrared and HP SIR.

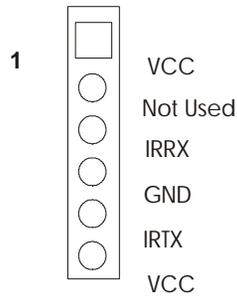


Fig. 6 IrDA Connector

### 3.6 J14 – LAN WAKE UP CONNECTOR

J14 is used to connect to the Network Card which support the LAN wake up feature.

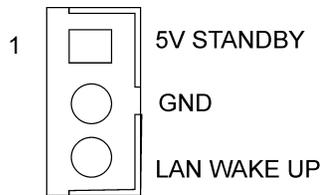


Fig. 7 LAN Wake Up Connector

### 3.7 J17, J18-CPU FAN1&2 CONNECTOR

These FAN connectors are used to connect with the CPU Fan or the Chassis Fan Power cable.

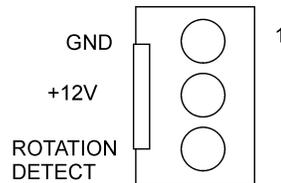


Fig. 8 FAN Connector

### 3.8 J20 – CD-ROM AUDIO CONNECTOR (SONY)

J20 is a four-pin connector, which is used to connect with the Sony CD-ROM audio output. This pin definition is as following:

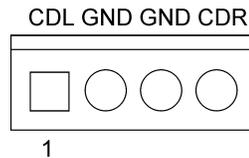


Fig.9 CD-ROM Audio Connector

### 3.9 J21-CD-ROM AUDIO CONNECTOR (MISUMI/PANASONIC)

J21 is four-pin connector, which is used to connect with the Panasonic or Misumi CD-ROM audio output. The pin definition is as following:

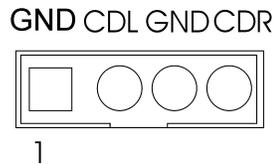


Fig.10 CD-ROM Audio Connector

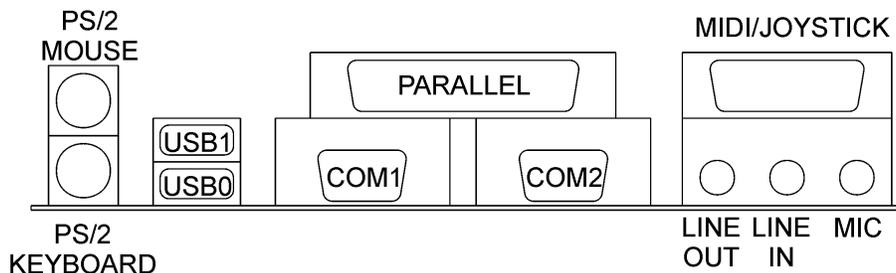


Fig. 11 I/O Connector

### 3.10 PS/2 KEYBOARD CONNECTOR

This connector is a six-pin female mini DIN connector using a PS/2 plug. If a standard AT size keyboard plugs, you may use the DIN to mini DIN adapter.

### 3.11 PS/2 MOUSE CONNECTOR

This connector is a six-pin female mini DIN connector using a PS/2 plug. Plug the jack on the PS/2 keyboard cable into this connector.

### 3.12 UNIVERSAL SERIAL BUS PORT 0 & 1

These connectors are two four pin female sockets which are available for connecting USB device.

### 3.13 SERIAL PORT COM1 & COM2

This is a D-Type 9 pin male connector for pointing devices or other serial devices.

### 3.14 PARALLEL PORT CONNECTOR

This is a D-Type 25 pin female connector.

### 3.15 AUDIO PORT CONNECTOR

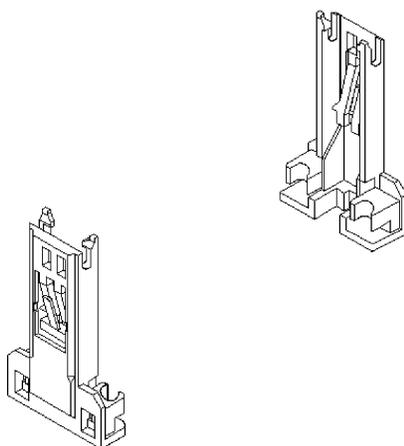
Three 1/8" female connectors used as line out, line in and microphones. **Line Out** can be connected to headphones or *powered speakers*. **Line In** allows tape players

or other audio sources to be recorded by your computer or played through the Line Out. **MIC** allows microphones to be connected for inputting voice.

### **3.16 RETENTION MECHANISM KITS INSTALLATION GUIDE**

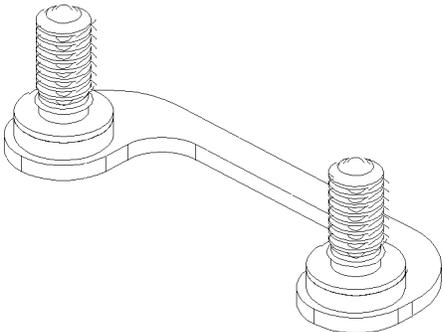
Retention Mechanism Kits includes following components:

1. Retention mechanism Assembly



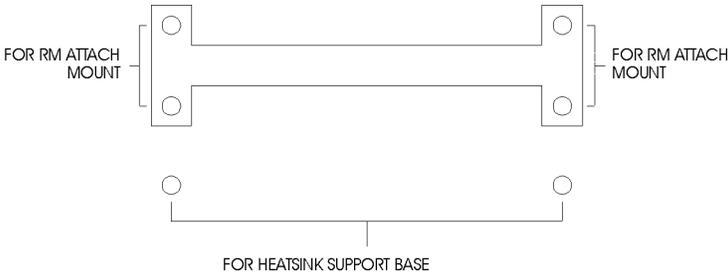
**Fig. 12**

2. Retention Mechanism Attach Mount



**Fig. 13**

3. Before the installation of RM Kits find the six holes on the motherboard for RM installation. The hole position and usage is as following:



**Fig. 14**

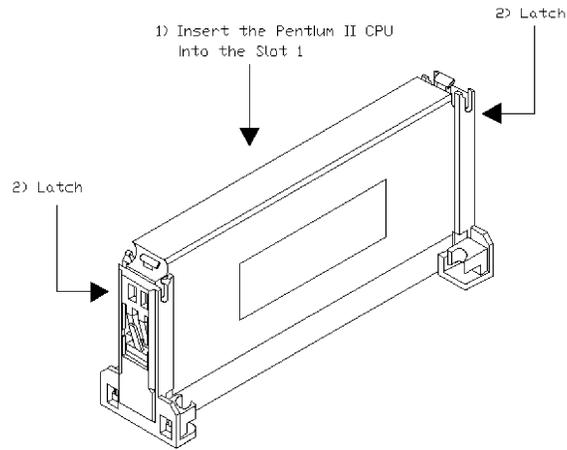
**Installation Guide**

1. Mount the two RM Attach Mounts onto the motherboard from bottom side. These mounts will be used to attach the RM Assembly.
2. Put the RM Assembly on the Slot 1 and use the four screws to fix RM Assembly to the RM Attach Mount.

### Chapter 3

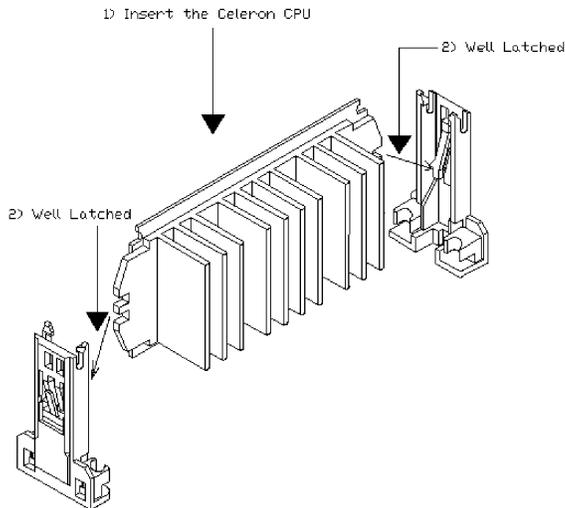
---

3. Please refer to the diagram for the installation of Pentium III/II CPU



**Fig. 15a**

4. Please refer to the diagram for the installation of Celeron CPU or Pentium III/II in SECC2 package.



**Fig. 15b**

### 3.16 OPTIONAL HEATSINK SUPPORT INSTALLATION GUIDE

Optional Heatsink Support includes following components:

- 1. Heatsink Top Support (Optional)

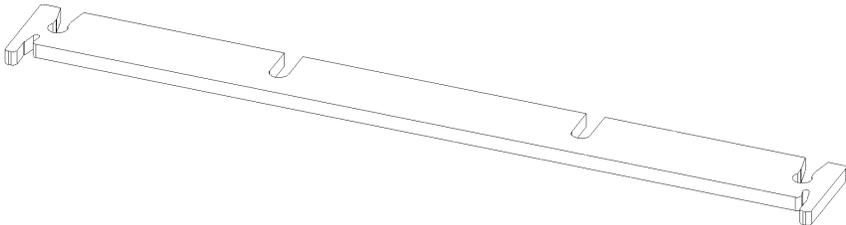


Fig. 16

- 2. Heatsink Support Base (Optional)

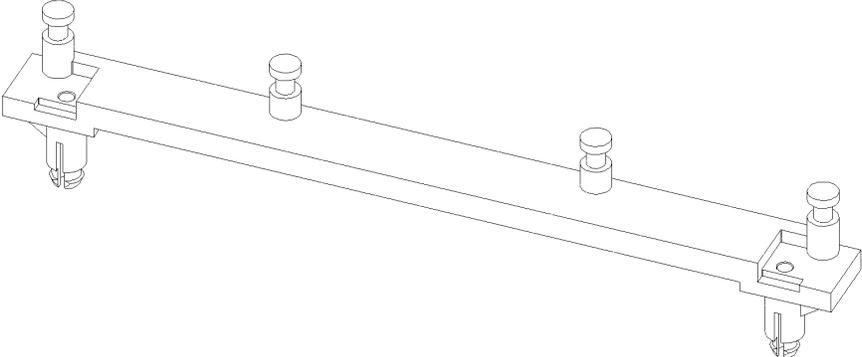
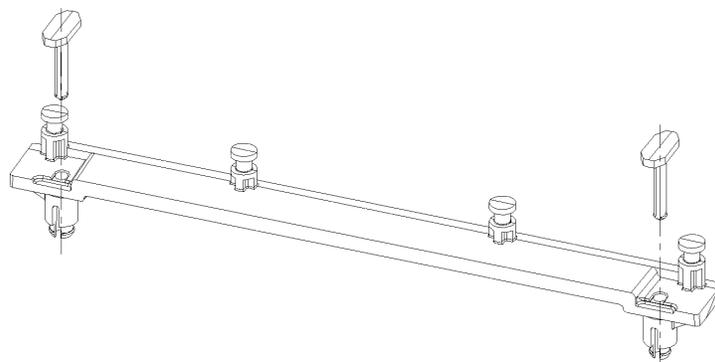


Fig. 17

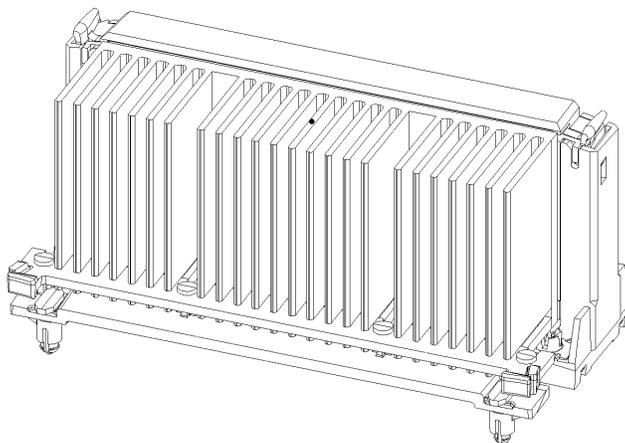
**Installation Guide**

- a) Refer to Fig. 15, install the Heatsink Support Base onto the motherboard, insert the two plastic nail to the hole in the Heatsink Support Base as following diagram:



**Fig. 18a**

- b) Insert the Heatsink Top Support to the Pentium II Heatsink and the Heatsink Support Base as the following diagram:



**Fig. 18b**

---

## CHAPTER 4

## AWARD BIOS SETUP GUIDE

This following manual is specially provided for the BIOS supported system. After the configuration of the mainboard, and have assembled the components, user can turn on the completed system. At this point, run the software setup to ensure that the system information is correct.

The software setup of the system board is achieved through Basic Input-Output System (BIOS) programming. Use the BIOS setup program to tell the operating system what types of devices (such as disk drives) are connected to the system board.

The system setup is also called CMOS setup. Normally, users need to run system setup if either the hardware configuration is not identical with information contained in the CMOS RAM, or the CMOS RAM has lost power.

### 4.1 AWARD BIOS SETUP

The setup program provided with the mainboard is the Award BIOS from Award Software, Inc. Enter the AWARD Setup program's Main Menu as follows:

1. Turn on or reboot the system. After a series of diagnostic check, the following message appear:

**“Press DEL to enter SETUP”**

## Chapter 4

---

2. Press the <DEL> key to enter the AWARD BIOS setup program and the following screen appears:

ROM PCI/ISA BIOS (2A6LGD1D)  
CMOS SETUP UTILITY  
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP	CPU SPEED SETTING
BIOS FEATURES SETUP	INTEGRATED PERIPHERALS
CHIPSET FEATURES SETUP	SUPERVISOR PASSWORD
POWER MANAGEMENT SETUP	USER PASSWORD
PNP/PCI CONFIGURATION	IDE HDD AUTO DETECTION
LOAD BIOS DEFAULTS	SAVE & EXIT SETUP
LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING
Esc : Quit F10 : Save & Exit Setup	↑ ↓ → ← : Select Item (Shift)F2 : Change Color
Time, Data, Hard Disk Type...	

**Fig. 19**

3. Choose an option and press <Enter>. Modify the system parameters to reflect the options installed in the system. (see the following sections for more information).
4. Press <ESC> at anytime to return to the Main Menu.
5. In the Main Menu, choose “SAVE AND EXIT SETUP” to save change and reboot the system. Choosing “EXIT WITHOUT SAVING” to ignore all changes and exists the program.

## 4.2 STANDARD CMOS SETUP

ROM PCI/ISA BIOS (2A6LGD1D)  
STANDARD CMOS SETUP  
AWARD SOFTWARE, INC.

Date (mm:dd:yy) : Mon, Jan 10 2000								
Time (hh:mm:ss) : 19 : 1 : 14								
HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master	: Auto	0	0	0	0	0	0	AUTO
Primary Slave	: None	0	0	0	0	0	0	-----
Secondary Master	: None	0	0	0	0	0	0	-----
Secondary Slave	: None	0	0	0	0	0	0	-----
Drive A: 1.44M, 3.5in.					Base Memory: 640K			
Drive B : None					Extended Memory: 64512K			
Video : EGA/VGA					Other Memory: 384K			
Halt On : All Errors					Total Memory: 65536K			
Esc : Quit		↑ ↓ → ← : Select Item			PU/PD/+/- : Modify			
F1 : Help		(Shift)F2 : Change Color						

**Fig. 20**

<b>Date (mm/dd/yy)</b>	Type the current date.
<b>Time (hh:mm:ss)</b>	Type the current time.
<b>Hard Disks</b>	Choose from the standard hard disk types 1 to 45. Type 47 is user definable. Type Auto is for auto-detect the hard disk type.
<b>Drive A&amp;B</b>	Choose 360K, 5.25in.; 1.2M, 5.25in.; 720K, 3.5in.; 1.44M, 3.5in.; 2.88MB 3.5in. or None
<b>Video</b>	Choose EGA/VGA, CGA 40, CGA 80, or MONO,
<b>Halt On</b>	Choose All Errors; No Errors; All, But Keyboard; All, But Diskette or All, But Disk/Key

### 4.3 BIOS FEATURES SETUP

ROM PCI/ISA BIOS (2A6LGD1D)  
 BIOS FEATURES SETUP  
 AWARD SOFTWARE, INC.

Anti-Virus Protection	: Enabled	Video BIOS Shadow	: Enabled
CPU Internal Cache	: Enabled	C8000-CBFFF Shadow	: Disabled
External Cache	: Enabled	CC000-CFFFF Shadow	: Disabled
CPU L2 Cache ECC Checking	: Enabled	D0000-D3FFF Shadow	: Disabled
Quick Power On Self Test	: Disabled	D4000-D7FFF Shadow	: Disabled
Boot Sequence	: A,C,SCSI	D8000-DBFFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	DC000-DFFFF Shadow	: Disabled
Boot Up Floppy Seek	: Enabled		
Boot Up Numlock Status	: On		
IDE HDD Block Mode	: Enable		
Gate A20 Option	: Fast		
Memory Parity/ECC Check	: Enabled		
Typematic Rate Setting	: Disabled		
Typematic Rate (Chars/Sec)	: 6		
Typematic Delay (Msec)	: 250	ESC: Quit	↑ ↓ → ←: Select Item
Security Option	: Setup	F1: Help	PU/PD/+/-: Modify
PCI/VGA Palette Snoop	: Disabled	F5: Old Values (Shift)	F2: Color
OS Select For DRAM > 64MB	: Non-OS2	F6: Load BIOS Defaults	F7: Load Setup Defaults

Fig. 21 BIOS Setup Defaults

**A short description of the screen items follows:**

**Anti-Virus Protection:** Choose *Enabled* or *Disabled*. *Enabled* to activate the Trend ChipAwayVirus (R) Anti-Virus program inside the BIOS.

**CPU Internal Cache** Choose *Enabled* or *Disabled*. This option lets user choose whether to use CPU internal cache memory. The default is *Enabled*.

**External Cache:** Choose *Enabled* or *Disabled*. This option lets user choose whether to use secondary cache memory. The default is *Enabled*.

**Quick Power On Self Test:** The option are *Enabled* or *Disabled*. *Enabled* allows the computer to boot more quickly, skipping parts of the self test. *Disabled* causes the computer to boot more slowly, performing all parts of the self test.

**Boot Sequence:** With the default setting the BIOS first attempts to boot from drive A: and then, if unsuccessful, from hard disk C:. User can select other boot up sequence. Available sequences are “A, C, SCSI”, “C, A, SCSI”, “C, CDROM, A”, “CDROM, C, A”, “D, A, SCSI”, “E, A, SCSI”, “F, A, SCSI”, “SCSI, A, C”, “SCSI, C, A”, “C only”, “LS/ZIP, C”.

**Swap Floppy Drive:** Choose *Enabled* or *Disabled*. This option lets end users to change the Drive A: or B: to others.

**Boot up Floppy Seek:** Choose *Enabled* or *Disabled*. *Disabled* provides a fast boot and reduces the possibility of damage to the heads.

**Boot Up NumLock Status:** Choose *On* or *Off*. *On* puts numeric keypad in Num Lock mode at boot-up. *Off* puts numeric keypad in arrow key mode at boot-up.

**IDE HDD Block Mode:** Choose *Enabled* or *Disabled*. This allows your hard disk controller to use the fast block mode to transfer data to your hard disk drive.

**Gate A20 Option:** Choose *Fast* (chipset handled) or *Normal* (keyboard handled). The gate A20 is a device used to address memory above 1Mbytes. Initially, the gate A20 was handled via a pin on the keyboard. Today, while keyboards still provide this support, it is more common, and much faster, for the system chipset to provide support for gate A20.

**Memory Parity/ECC Check:** Choose *Enabled* or *Disabled*. If memory modules with Parity of ECC are installed, you may choose *Enabled*.

**Typematic Rate Setting:** Choose *Enabled* or *Disabled*. *Enabled* will determines the typematic rate defined by following two options.

**Typematic Rate (Chars/Sec):** The number selected “6,8,10...” indicates how fast the number of characters can response in one second.

**Typematic Delay (Msec):** The number selected indicates the time period between which two identical keys appear.

**Security Option:** Choose *Setup* or *System*. If *System* is selected, the password should be set.

**PCI/VGA Palette Snoop:** Select *Disabled* or *Enabled*. If *Enabled* the MPEG Card can synchronised with PCI/VGA.

**OS Select For DRAM > 64MB:** Select *Non-OS/2* or *OS/2*. If the system memory is larger than 64MB and running OS/2, please select *OS/2*. However, if it use other operating system, please select *Non-OS/2*. Furthermore, if the system memory is less than 64MB, the BIOS will ignore this function.

## Chapter 4

---

**Video BIOS Shadow:** ROM Shadow copies Video BIOS code from slower ROM to faster RAM. Video BIOS can then execute from RAM.

**C8000-DFFFF Shadow:** If enabled and BIOS is present in this segment, then the BIOS is shadowed.

### 4.4 CHIPSET FEATURES SETUP

The Advanced Chipset Setup option is used to change the values of the chipset registers. These registers control most of the system options in the computer.

*Note: Change these Settings only if user is familiar with the Chipset.*

ROM PCI/ISA BIOS (2A6LGD1D)  
CHIPSET FEATURES SETUP  
AWARD SOFTWARE, INC.

Bank 0/1 DRAM Timing	: SDRAM 10ns	Auto Detect DIMM/PCI clk	: Enabled
Bank 2/3 DRAM Timing	: SDRAM 10ns		
Bank 4/5 DRAM Timing	: SDRAM 10ns		
SDRAM Cycle Length	: 3		
DRAM Clock	: Host CLK		
Memory Hole	: Disabled		
P2C/C2P	: Enabled		
Fast R-W Turn Around	: Disabled		
Read Around write	: Disabled		
Concurrent PCI/HOST	: Disabled		
System BIOS Cacheable	: Disabled		
Video RAM Cacheable	: Disabled		
AGP Aperture Size	: 64M		
AGP-2x Mode	: Enabled		
H/W Reset Protection	: Disabled		
Onchip USB	: Enabled	ESC: Quit	↑ ↓ → ←: Select Item
USB Keyboard Support	: Disabled	F1: Help	PU/PD/+/-: Modify
Onchip Sound	: Enabled	F5: Old Values	(Shift)F2: Color
Onchip Modem	: Enabled	F6: Load BIOS Defaults	
		F7: Load Setup Defaults	

Fig. 22

**A short description of the screen items follows:**

**Bank 0/1 DRAM Timing, Bank 2/3 DRAM Timing, Bank 4/5 DRAM Timing:** Available options are *Normal, Medium, Fast, Turbo, FP/EDO 70ns, FP/EDO 60ns, SDRAM 10ns, SDRAM 8ns*. It is set the DRAM Timing of the corresponding Memory Bank.

**SDRAM Cycle Length:** It is used to set the SDRAM timing. The default setting is 2 and it may be set to 3 for slower SDRAM.

**DRAM Clock :** It is used to set the RAM clock. The options are *HCLK, HCLK-33, HCLK+33*. When choose *HCLK*, the RAM will run with the host clock. When choose *HCLK-33 OR HCLK+33*, it will run lower or higher than the host clock.

**Memory Hole:** Choose *Enabled* or *Disabled*. *Enabled* allows some linear VGA Cards to run larger frame port, or it can be reserved or some operating system.

**Read Around write:** Choose *Enabled* or *Disabled*.

**Concurrent PCI/HOST:** Choose *Enabled* or *Disabled*.

**System BIOS Cacheable:** Choose *Enabled* or *Disabled*. *Enabled* allows System BIOS to be cacheable.

**Video RAM Cacheable:** Choose *Enabled* or *Disabled*. *Enabled* allows video RAM to be cacheable.

**AGP Aperture Size:** Select the size of the Accelerated Graphic Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation. The available options are 4, 8, 16, 32, 64, 128 and 256MB.

**AGP -2x Mode:** Choose *Enabled* or *Disabled*. *Enabled* allows AGP run with 2x mode.

**H/W Reset Protection:** When *Enabled*, it will disable the function of reset switch.

**OnChip USB:** Choose *Enabled* or *Disabled*. *Enabled* allows the on board Universal Serial Bus (USB) Controller to be functioned.

**USB Keyboard Support:** This option only shown when OnChip USB Controller is enabled. Choose *Enabled* or *Disabled* to support the USB keyboard.

**Onchip Sound:** Choose *Enabled* or *Disabled*. *Enabled* allows the on board sound chip to be functioned.

**Onchip Modem:** Choose *Enabled* or *Disabled*.

**Auto Detect DIMM/PCI clk:** Choose *Enabled* or *Disabled*.

## 4.5 POWER MANAGEMENT SETUP MENU

The Power Management Setup option is used to change the values of the chipset registers for system power management functions.

ROM PCI/ISA BIOS (2A6LGD1D)  
POWER MANAGEMENT SETUP  
AWARD SOFTWARE, INC.

ACPI Function	: Enabled	Primary INTR	: ON
Power Management	: User Define	IRQ3 (COM2)	: Primary
PM Control by APM	: Yes	IRQ4 (COM1)	: Primary
Video Off After	: Suspend	IRQ5 (LPT2)	: Primary
Video Off Method	: V/H SYNC+Blank	IRQ6 (Floppy Disk)	: Primary
MODEM Use IRQ	: 3	IRQ7 (LPT1)	: Primary
Soft-off by PWRBTN	: Instant-Off	IRQ8 (RTC Alarm)	: Disabled
PWRON After PW-Fail	: Off	IRQ9 (IRQ2 Redir)	: Secondary
HDD Power Down	: Disabled	IRQ10 (Reserved)	: Secondary
Doze Mode	: Disabled	IRQ11 (Reserved)	: Secondary
Suspend Mode	: Disabled	IRQ12 (PS/2 Mouse)	: Primary
	<b>** PM Events **</b>	IRQ13 (Coprocessor)	: Primary
VGA	: OFF	IRQ14 (Hard Disk)	: Primary
LPT & COM	: LPT/COM	IRQ15 (Reserved)	: Disabled
HDD & FDD	: OFF		
PCI Master	: ON		
Modem Ring Resume	: Disabled		
RTC Alarm Resume	: Disabled		
Wake Up On LAN	: Disabled		
		ESC: Quit      ↑ ↓ → ←: Select Item F1: Help        PU/PD/+/-: Modify F5: Old Values   (Shift)F2: Color F6: Load BIOS Defaults F7: Load Setup Defaults	

Fig. 23

**A short description of the screen items follows:**

**ACPI Function:** To enabled feature for supporting the operating system with Advanced Configuration and Power Interface. (Such as Windows 98)

**Power Management:** Available selections are “User Define”, “MinSaving” and “MaxSaving”:

“User Define” makes the time period waiting for Suspend Mode to be programmed.

“Min Saving” will set the time period waiting for Suspend Mode to be 1 hour.

“Max Saving” will set the time period waiting for Suspend Mode to be 10 seconds.

**PM Control by APM:** Available options are “Yes” and “No”. To choose “Yes” to let the Power Management Function to be control by the MS APM software.

**Video Off After:** Choose the mode in which you want the monitor to blank. The options are “On”, “Suspend”, “Doze” and “NA”.

**Video Off Method:** Choose *V/H SYNC+Blank*, *DPMS Support* or *Blank Screen*. This is monitor Power Saving Method. *V/H SYNC+Blank* means turn off Vertical, Horizontal scanning and blank the screen. *Blank Screen* will blank the display screen. *DPMS* (Display Power Management System) can allow the System BIOS control the Display Card to turn off the Display.

**MODEM Use IRQ:** Available options are *3,4,5,7,9,10,11* and *NA*. It is used to choose the interrupt line that the Modem is used. “NA” means not available.

**Soft-Off by PWR BTTN:** Available options are “Instant-Off” and “Delay 4 sec.”. For “Instant-Off” option, the power of the system will be switched off at once when the power button is pressed for turn it off. For “Delay 4 sec.” Option, the power of the system will be switched off with pressing the power button for 4 seconds.

**PWRON After PW-Fail:** Choose *Off*, *Former-sts* or *On*.

**HDD Power Down:** To select the time period will turn the HDD off. Accessing the HDD again will take a few seconds for HDD to spin up for operation.

**Doze Mode:** The options are *Disabled*, *10Sec*, *20Sec*, *30Sec*, *40Sec*, *1Min*, *2Min*, *4Min*, *6Min*, *8Min*, *10Min*, *20Min*, *30Min*, *40Min*, and *1Hour*. Select the time you want .The shorter the time you select the sooner the system will enter doze mode.

**Suspend Mode:** To set the time period waiting for Suspend Mode when the Power Management function is set to “User Define”. The options are *Disabled*, *10Sec*, *20Sec*, *30Sec*, *40Sec*, *1Min*, *2Min*, *4Min*, *6Min*, *8Min*, *10Min*, *20Min*, *30Min*, *40Min*, and *1Hour*.

**VGA/LPT&COM/HDD&FDD/DMA/Master:** All of these functions are used to control the wake up event from the Suspend Mode. Once the function is enabled, the corresponded activity will trigger the system back to the Normal Mode from the Suspend Mode.

**PCI Master:** Choose *Disabled* or *Enabled*.

**Modem Ring Resume:** When *Enabled*, the external modem ring in can wake up the system.

**RTC Alarm Resume:** To enable the **RTC Alarm Resume** will wake up the system at the time set on the **Date (of Month)** and **Timer (hh:mm:ss)**.

**Wake Up On LAN:** When *Enabled*, the wake up packet received by the Network Card, with wake up on LAN feature, can wake up the system

## Chapter 4

---

**Primary INTR:** To turn on this feature will enable the system to monitor the IRQs for power management.

**IRQ3 – IRQ15:** When it is enabled, the system will monitor the activity of the corresponded system IRQ to turn on or off the power management functions.

### 4.6 PNP/PCI CONFIGURATION

The PCI Configuration Setup option is used to configure the PCI add-on Cards on PCI Slots. Without proper setup the PCI Add-on Cards might not function properly.

ROM PCI/ISA BIOS (2A6LGD1D)  
PNP/PCI CONFIGURATION  
AWARD SOFTWARE, INC.

PNP OS Installed	: Yes	CPU to PCI Write Buffer	: Enabled
Resources Controlled By	: Manual	PCI Dynamic Bursting	: Enabled
Reset Configuration Data	: Disabled	PCI Master 0 WS Write	: Enabled
IRQ-3 assigned to	: PCI/ISA PnP	PCI Delay Transaction	: Enabled
IRQ-4 assigned to	: PCI/ISA PnP	PCI #2 Access #1 Retry	: Disabled
IRQ-5 assigned to	: PCI/ISA PnP	PCI Master Read Caching	: Enabled
IRQ-7 assigned to	: PCI/ISA PnP	AGP Master 1 WS Write	: Enabled
IRQ-9 assigned to	: PCI/ISA PnP	AGP Master 1 WS Read	: Disabled
IRQ-10 assigned to	: PCI/ISA PnP		
IRQ-11 assigned to	: PCI/ISA PnP	Assign IRQ For USB	: Enabled
IRQ-12 assigned to	: PCI/ISA PnP	Assign IRQ For VGA	: Enabled
IRQ-14 assigned to	: PCI/ISA PnP		
IRQ-15 assigned to	: PCI/ISA PnP		
DMA-0 assigned to	: PCI/ISA PnP		
DMA-1 assigned to	: PCI/ISA PnP		
DMA-3 assigned to	: PCI/ISA PnP		
DMA-5 assigned to	: PCI/ISA PnP		
DMA-6 assigned to	: PCI/ISA PnP		
DMA-7 assigned to	: PCI/ISA PnP		

ESC: Quit      ↑ ↓ → ←: Select Item  
F1: Help      PU/PD/+/-: Modify  
F5: Old Values (Shift)F2: Color  
F6: Load BIOS Defaults  
F7: Load Setup Defaults

Fig. 24

*Note: Change these Settings only if user is familiar with the Chipset and all the PCI Add-on Cards functions.*

**A short description of the screen items follows:**

**PNP OS Installed:** Set this option to *Yes* if the operating system installed in the computer is Plug and Play-aware (e.g. Windows 95).

**Resources Controlled By:** The Award Plug and Play BIOS can automatically configure all

the boot and Plug and Play compatible device. If you select Auto, all the interrupt request (IRQ) and DMA assignment fields disappear, as the BIOS automatically assigns them.

**Reset Configuration Data:** If enable this option, the BIOS will clear and reset the ESCD after hardware reset.

**IRQ#/DMA# assigned to:** These items will be shown only when “Resources Controlled By” option is set the “Manual”. The available options are “Legacy ISA” and “PCI/ISA PnP”. If the option is set to “Legacy ISA”, the BIOS will never assign the specified IRQ/DMA resource to PCI or ISA PnP Devices. If “PCI/ISA PnP” is chosen, the BIOS will make the specified IRQ/DMA have a chance to be assigned to the PCI or ISA PnP devices.

**CPU to PCI Write Buffer:** It is used to enable or disable the CPU to PCI Write Buffer.

**PCI Dynamic Bursting:** It is used to enable or disable the PCI dynamic bursting cycles.

**PCI Master 0 WS Write:** Choose *Enabled* to let the PCI Master using 0 wait state in write cycle.

**PCI Peer Concurrency:** Choose *Enabled* or *Disabled*. To enable this option will let the system active more than one PCI device at a time.

**PCI Delay Transaction:** Select *Enabled* to use the write buffer for the delay transaction cycles. It is selected to support the compliance of PCI Specification Version 2.1.

**PCI Master Read Caching:** Choose *Enabled* or *Disabled*. It is used to enable or disable the PCI master read caching.

**AGP Master 1 WS Write/AGP Master 1 WS Read:** These items are used to enable or disable the AGP master device 1 wait state Write and Read cycle correspondingly.

**Assign IRQ For USB:** It is used to choose the IRQ that the USB is used.

**Assign IRQ For VGA:** It is used to choose the IRQ that the VGA is used.

## 4.7 LOAD BIOS DEFAULTS

Load BIOS Defaults allows you to automatically configure all of the options in the previous menus using the values in the ROM BIOS table. The fields in Standard CMOS Setup are not affected.

## 4.8 LOAD SETUP DEFAULTS MENU

This Main Menu item allows you to use the default setup values. Use this option as a diagnostic aid if the system behaves unstable. Choose this item and the following message appears:

**“Load SETUP Defaults (Y/N)? N”**

To use the Power-On defaults, change the prompt to “Y” and press <Enter>.

## 4.9 CPU SPEED SETTING

The CPU Speed Setting Setup option is used to select the CPU operating frequency determined by the CPU ratio and CPU system bus frequency.

*Note: Don't set CPU frequency higher than its working frequency. If you do, we will not be responsible for any damage caused*

ROM PCI/ISA BIOS (2A6LGD1D)  
CPU SPEED SETTING  
AWARD SOFTWARE, INC.

CPU Speed	: Manual	
CPU Ratio	: x2	
CPU Frequency	: 100MHZ	
Current CPU Tem.	: 30°C/ 86°F	
Current System Tem.	: 25°C/ 81°F	
Current CPUFAN1 Speed	: 3800RPM	
Current CPUFAN2 Speed	: ORPM	
Vcore : 2.00V	2.5V	: 2.49V
3.3V : 3.28V	5V	: 4.95V
12V	: 12.00V	
		ESC: Quit    ↑ ↓ → ←: Select Item
		F1: Help    PU/PD/+/-: Modify
		F5: Old Values (Shift)F2: Color
		F6: Load BIOS Defaults
		F7: Load Setup Defaults

**Fig.25**

**A short description of the screen items follows:**

**CPU Speed:** .If you choose “Manual”, you can set both of the *CPU Ratio* and *CPU Frequency* below. Otherwise, you may choose selectable CPU speed setting from 3x to 8x with 0.5

increment

**CPU Ratio:** You may choose the CPU ratio from “x2” to “x8”.

**CPU Frequency:** You can choose the CPU bus frequency from “66MHz” to “155MHz”.

## 4.10 INTEGRATED PERIPHERALS SETUP MENU

The Integrated Peripherals setup option is used to change the values of the I/O chipset registers for I/O functions.

ROM PCI/ISA BIOS (2A6LGD1D)  
INTEGRATED PERIPHERALS  
AWARD SOFTWARE, INC.

<p>OnChip IDE Channel0 : Enabled                      OnChip IDE Channel1 : Enabled                      IDE Prefetch Mode : Enabled                      Primary Master PIO : Auto                      Primary Slave PIO : Auto                      Secondary Master PIO : Auto                      Secondary Slave PIO : Auto                      Primary Master UDMA : Auto                      Primary Slave UDMA : Auto                      Secondary Master UDMA : Auto                      Secondary Slave UDMA : Auto                      Init Display First : AGP</p> <p>Onboard FDC Controller : Enabled                      Onboard Serial Port 1 : Auto                      Onboard Serial Port 2 : Auto                      UART 2 Mode : HPSIR                      IR Function Duplex : Half                      TX,RX inverting enable : No                      Onboard Parallel Port : 378/IRQ7</p>	<p>Onboard Parallel Mode : ECP/EPP                      Parallel Port EPP Type : EPP1.7                      ECP Mode Use DMA : 3                      Onboard Legacy Audio : Enabled                      Sound Blaster : Disabled                      SB I/O Base Address : 220H                      SB IRQ Select : IRQ5                      SB DMA Select : DMA1                      MPU- 401 : Disabled                      MPU- 401 I/O Address : 330-333H                      FM Port (388-38H) : Disabled                      Game Port (200-207H) : Enabled</p> <hr/> <p>ESC: Quit      ↑ ↓ → ←: Select Item                      F1: Help      PU/PD/+/-: Modify                      F5: Old Values (Shift)F2: Color                      F6: Load BIOS Defaults                      F7: Load Setup Defaults</p>
---	---

**Fig. 26**

**A short description of the screen items follows:**

**OnChip IDE Channel0/OnChip IDE Channel1:** These items are used to enable or disable the onboard IDE Channel.

**IDE Prefetch Mode:** Choose *Enabled* to set the onboard IDE controller to access the IDE device with faster Prefetch Mode.

**Primary Master PIO/Primary Slave PIO/Secondary Master PIO/Secondary Slave PIO:** Available selection are “Auto”, “Mode 0”, “Mode 1”, “Mode 2”, “Mode 3” and “Mode 4”. To choose “Auto”, the system BIOS will scan the IDE device and decide which mode of the

## Chapter 4

---

device is. Otherwise the user should key in the mode of the device to the corresponding field.

*Some harddisks cannot work properly with its corresponding timing, please set a slower timing.*

**Primary Master UDMA/Primary Slave UDMA/Secondary Master UDMA/Secondary Slave UDMA:** Available selections are *Auto* or *Disabled*. To choose *Auto*, the system BIOS will scan the IDE device and decide Ultra DMA supported or not.

**Init Display First:** To select priority of initialization the PCI display card or the AGP display card.

**Onboard FDC Controller:** Choose *Enabled* or *Disabled*. *Enabled* allows onboard Floppy Drive Controller to be functioned, otherwise the users should use other sources.

**Onboard Serial Port 1:** Choose *Auto*, *Disabled*, *3F8/IRQ4*, *2F8/IRQ3*, *3E8/IRQ4* and *2E8/IRQ3*. While choosing proper I/O Address/IRQ, be sure not to cause Address conflict with other I/O devices. The default setting is *Auto*.

**Onboard Serial Port 2:** Choose *Auto*, *Disabled*, *3F8/IRQ4*, *2F8/IRQ3*, *3E8/IRQ4* and *2E8/IRQ3*. While choosing proper I/O Address/IRQ, be sure not to cause Address conflict with other I/O device. The default setting is *Auto*.

**UART 2 Mode:** Choose *Standard*, *HPSIR* or *ASKIR* (Amplitude Shift Keyed Infrared Port), The default setting is *Standard*.

**IR Function Duplex:** Choose *Half* or *Full*.

**TX,RX inverting enable:** Choose *No* or *Yes*.

**Onboard Parallel Mode:** Choose *Normal*, *EPP*, *ECP*, *ECP/EPP* or *Disabled*.

**Onboard Parallel Port:** Choose *None* or *with four different I/O Address and corresponding IRQx*. While choosing proper I/O Address, be sure not to cause Address conflict with other I/O devices.

**Parallel Port Mode:** Choose *SPP*, *EPP*, *ECP*, *ECP+EPP Mode*. Make proper selection with the attached printer port device.

**ECP Mode Use DMA:** Choose “1” or “3” to select the DMA channel used for the ECP device. This item is shown if the **Onboard Parallel Mode** is chosen as “ECP” or “ECP/EPP” option.

**EPP Mode Select:** Choose “EPP1.7” or “EPP1.9”, which is used to configure the EPP using either EPP1.7 or 1.9 timing specification. This item is shown if the **Parallel Mode** is chosen

as “EPP” or “ECP+EPP” option.

## 4.11 SUPERVISOR PASSWORD

Two level of password is supported. Depending on the setting of the “Security Option” in the “BIOS FEATURES SETUP”, the system BIOS will ask for password every time booting up the System or entering BIOS Setup. With the supervisor password, both the system booting and BIOS setup changing is allowed.

This main menu item lets the user to set up the Supervisor Password.

Change the password as follows:

1. Choose “PASSWORD SETTING” in the Main Menu and press <Enter>. The following message appears:

**“ENTER PASSWORD:”**

2. Enter the Password and press <Enter>. The following message appears:

**"CONFIRM PASSWORD:"**

*Important: Keep a safe record of the new password. If forget or lose the password, the only way to access the system is to disconnect the CMOS batteries and then re-enter the password.*

## 4.12 USER PASSWORD

With the user password, only booting up the system is accepted, but changing the BIOS setup is not allowed.

## 4.13 IDE HDD AUTO DETECTION

When users can not find the Hard Disk information, it is very helpful to use this option.

1. Choose this item and press <Enter>.
2. After couple seconds, the screen will appear the Hard Disk information and following message:

**“SELECT PRIMARY MASTER OPTION(N=SKIP): N”**

3. Enter *Y* or *N* to confirm the acceptance then enter.
4. The process will repeat for Primary Slave, Secondary Master and Secondary Slave Hard Disks.

#### **4.14 SAVE & EXIT SETUP MENU**

When you select this function, the following message will appear at the centre of the screen to assist you to Save data to CMOS and Exit the Setup.

**Save to CMOS and Exit (Y/N)?**

#### **4.15 EXIT WITHOUT SAVING MENU**

When you select this function, the following message will appear at the centre of the screen to assist you to Abandon all Data and Exit Setup.

**Quit Without Saving (Y/N)?**

---

## CHAPTER 5

## DRIVER INSTALLATION

The Mainboard User's Guide & Software CD-ROM will auto execute with a menu displayed when put into CD-ROM Drive. Then the correct product needs to be selected, and the Drivers list will be showed on the right side of the screen: The VIA Apollo Drivers, Utility files, Manual & Catalog. Click the **VIA Apollo Drivers** for the drivers of system must be installed. For example, in Windows 98 or 95 system, the "**4IN1 Drivers**", "**VT1611A**" are minimum drivers must be installed for proper system operation. If the CD-ROM can not auto execute with Menu prompt, the "Explore this CD" can be selected to browse the CD-ROM, and click "Autotrunk.exe" in root directory, or follow the descriptions as below to install the drivers step by step.

### 5.1 4IN1 DRIVERS INSTALLATION

The **4IN1** drivers include *Bus Master PCI IDE Driver*, *AGP VxD Driver*, *VIA Chipset Function' Registry* and *IRQ Routing Miniport Driver*.

Browse the Mainboard User's Guide & Software CD-ROM to the directory `\92Ve0\drivers\4in1\` and click *setup.exe*, it will install the software automatically, be sure to select all of the drivers listed above during the installation

### 5.2 VT1611A DRIVER INSTALLATION

The **VT1611A** is the VIA PCI Audio driver for the on board audio codec.

Browse the Mainboard User's Guide & Software CD-ROM to the directory `\92Ve0\drivers\VT1611A\` and click *setup.exe*, it will enter the **VIA PCI Audio Driver Setup Program** interface. Click *Next*, it will install the software automatically. When finishing the driver installation follow the screen direction to *restart* Windows again. When reenter the Windows, the system will find the New Hardware, and add the *VIA Gameport Joystick* and *VIA PCI Audio Controller* to the **Sound, video and game controller Device** automatically.



---

## CHAPTER 6

## FLASH AND DMI UTILITY

### 6.1 AWARD FLASH UTILITY

This section will provide instructions to guide you through updating your old BIOS. The file name we use to program here is *test.bin*, and the file name to save old BIOS is *2A59F000.OLD*. Please note that those file names are not absolute. They are only examples to let you have a more clear understanding of the updating process.

#### How to Begin

1. Please type “*awdf flash*” and press the **ENTER** key to begin the updating process.
2. Once you enter, you will see a main menu displaying:

FLASH MEMORY WRITER V5.XX Copyright (C) 1999, Award Software, Inc.,
For 694A-686A-2A6LGD1D    DATE: 09/10/99 Flash Type
File Name to Program:
Error Message:

**Fig. 27**

3. Type the program name “*test.bin*”, and then press the **ENTER** key.
4. At the bottom of the menu, you will be requested to answer:

*“Do You Want to Save BIOS (Y/N)?”*

## Chapter 6

---

If you do not wish to save the old BIOS:

5. Please type “N”, and then press the ENTER key.
6. Then you will be request to answer:

*“Are You Sure to Program?”*

7. Answer “N” if you do not want to program, and then it will exit.

To save the old BIOS:

8. Please respond “Y”, and then press the ENTER key.
9. Move the cursor to “File Name to Save:”
10. Type file name “2A59F000.OLD”, and then press the ENTER.  
(Your old BIOS will be saved in the file name you create. In this case, the old BIOS is saved in the file name, 2A59F000.OLD).
11. Then you will be requested to answer:

*“Are You Sure to Program (Y/N)?”*

12. Type “Y” to begin programming, and press the ENTER key.
13. When the programming is finished, the showing message will appear:

*“Programming Flash Memory - 1FF00 0K*

*Message: Please Power off or Reset System”*

14. Once you see the showing message “Power Off or Reset System”, please re-start your system.
15. When you power on the computer again, you will find your old BIOS has already been successfully updated.

### **Warning**

Please note that Award Flash Utility cannot run under EMM386 or QEMM. Thus, when executing the command “*awdf*lash”, and error message will appear:

*“Error Message: Fail - Due to EMM386 or QEMM!”*

## 6.2 DESKTOP MANAGEMENT INTERFACE (DMI) OVERVIEW

This motherboard can support DMI within the BIOS level. DMI is able to auto-detect and record information pertinent to a computer's system such as the CPU type, CPU speed, and internal/external frequencies, and memory size. The onboard BIOS will detect as many system information as possible and store those collected information in a 4KB block in the motherboard's flash EPROM and allow the DMI to retrieve data from this database.

The DMI Configuration Utility (DMICFG.EXE) must be used in real mode in order for the program to run, the base memory must be at least 180K. Memory managers like HIMEM.SYS (required by windows) must not be installed. You can boot up from a system diskette without AUTOEXEC.BAT and CONFIG.SYS files, "REM" HIMEM.SYS in the CONFIG.SYS, or press <F5> during bootup to bypass your AUTOEXEC.BAT and CONFIG.SYS files.

### Using the DMI Configuration Utility

#### Edit DMI

```

Award DMI Configuration Utility V1.04a, Copyright Award Software Inc. 1996
[Edit DMI] [Add DMI] [Load DMI FILE] [Save DMI FILE]

  BIOS
  System
  Base Board
  Enclosure/Chassis
  Processor
  Memory Controller
  Memory Module
  Memory Module
  Memory Module
  Memory Module
  Cache
  Cache
  Port Connector
  System Slots

==== Display Component ====
Type : BIOS Information
Handle : 0000
Vendor Name : Award Software International, Inc.
BIOS Version : 4.51 PG
BIOS starting Address Segment : E000
BIOS Build Date : 05/12/97
BIOS Characteristics : Press [ENTER] for detail
Size of BIOS ROM : 0128K

↑←→ Move cursor ENTER=Accept DEL=Delete ESC=Abort&Exit

```

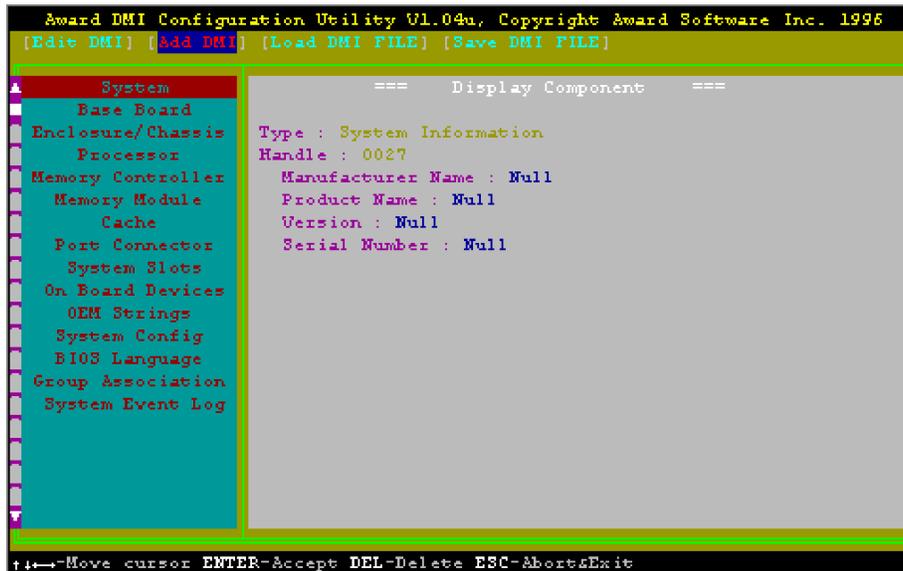
## Chapter 6

---

Use the ←→ (left-right) cursors to move the top menu items and the ↑↓ (up-down) cursor to move between the left-hand menu items. The bottom of the screen will show the available keys for each screen. Press *enter* at the menu item to enter the right hand screen for editing. “Edit component” appears on top. The reversed color field is the current cursor position and the blue text is available for editing. The orange text shows auto-detected information and is not available for editing. The blue text “Press [ENTER] for detail” contains a second pop-up menu is available, use the + - (plus-minus) keys to change the settings. Enter to exit and save, ESC to exit and not save.

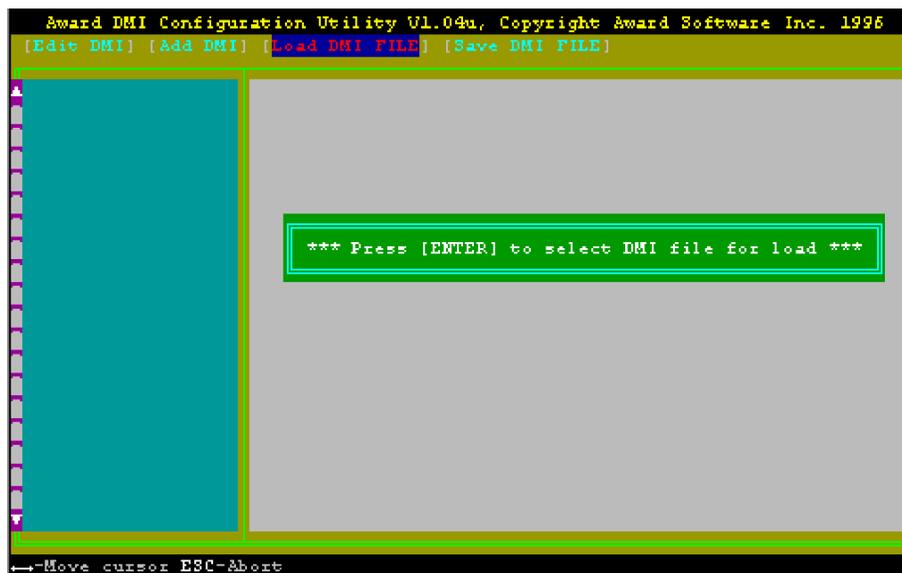
If the user has made changes, ESC will prompt you to answer Y or N. Enter Y to go back to the left-hand screen and save, enter N to go back to left-hand screen and not save. If editing has not been made, ESC will send you back to the left-hand menu without any messages.

### Add DMI



This DMI Configuration Utility also allows the system integrator or end user to add additional information into the DMI database such as serial numbers, housing configurations, and vendor information. Those information is not detected by the motherboard BIOS and has to be manually entered through the DMI Configuration Utility and updated into the DMI database.

Load DMI File

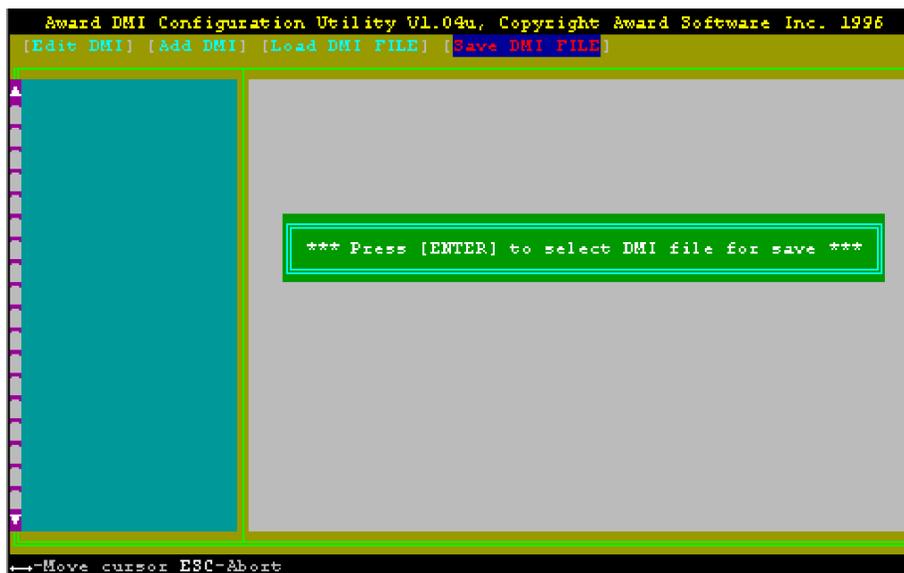


You can load the disk file to memory by entering a drive and path and file name here.

## Chapter 6

---

### Save DMI File



You can save the DMI (normally only saved to flash ROM) to a file by entering the drive and path here. If you want to cancel save, you may press ESC and a message “Bad File Name” appears here to show it was not saved.

## APPENDIX A QUICK GUIDE

The table below summarizes the functions and settings of each jumper of the motherboard.

Function		Jumper Settings
<b>Clear CMOS Data</b>	Normal	JP1: 1-2 short
	Clear	JP1: 2-3 short
<b>CPU Speed Protection</b>	CPU Speed Selection	JP2: 1-2 short
	CPU Speed Show Only	JP2: 2-3 short
<b>CPU FRONT SIDE BUS FREQUENCY SETTING</b>	Auto Detect	JP5:short JP6:short
	Always 100MHz for 66/100MHz bus CPU	JP5:open JP6:short
	Always 133MHz for 100/133MHz bus CPU	JP5:short JP6:open
<b>AC97&amp;MC97 SELECTION</b>	AC97 Enabled	JP7: 1-2 short
		JP8: short
	MC97 Enabled	JP7: 3-4 short
<b>AMR MODEM CHANNEL SELECTION</b>	Primary	JP9: open
	Secondary(Default)	JP9: close

---

## APPENDIX B

## CPU CLOCK SPEED

The table below summarizes the Pentium II/III Processor frequency and settings.

CPU Type	Freq.	CPU Front Size Bus Freq.	Ratio
Pentium II	233MHz	66MHz	3.5x
Pentium II/Celeron	266MHz		4.0x
	300MHz		4.5x
	333MHz		5.0x
Celeron	366MHz		5.5x
	400MHz		6.0x
	433MHz		6.5x
Pentium II	350MHz	100MHz	3.5x
	400MHz		4.0x
	450MHz		4.5x
Pentium III	450MHz		4.5x
	500MHz		5.0x
Pentium III	533MHz	133MHz	4.0x
	600MHz		4.5x