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S.N. #AS49620

# 1 Introduction

Your 80486 PCI main board is a full-featured IBM PC/AT™-compatible board offering a unique modular architecture that lets you upgrade the system by simply replacing the CPU. The board supports the PCI local bus and the following high-performance CPUs, with support for voltages from 3.3V to 5V:

- Intel: 486SX-25/33, 486DX-33, 486DX2-66, 486DX2-66 Overdrive, 486DX4-75/100, 486DX4-75/100 Overdrive
- AMD: 486DX2-66 (write-through), 486DX2-80 (write-through), 486DX4-100 (write-through), 486DX4-120 (write-back), 5x86-P75-133/150/160 (write-back)
- Cyrix: 486DX2-66/80, 486DX2v-66/80, 486DX4-100, 5X86-100/120/133

## 1.1 Features

- Selectable CPU voltage: 3.3V through 5.0V
- On-board clock generator lets you change CPU speed by jumper switch (you don't have to change the oscillator)
- ZIF (Zero-Insertion Force) CPU socket
- Three master PCI local bus slots (rev. 2.0)
- Four 16-bit input/output (I/O) expansion slots
- Auto-detection of installed DRAM memory: no configuration is necessary
- Optional 128KB, 256KB, or 512KB SRAM cache memory
- On-board Intelligent Drive Electronics (IDE) hard disk drive controller: supports Mode 3 and Mode 4 hard disk drives
- On-board peripheral ports:
  - Two on-board serial ports (16550)

- Parallel port with bi-directional lines: supports Enhanced Parallel Port (EPP) and Extended Capabilities Port (ECP)
- On-board floppy disk drive controller
- Licensed Award BIOS
- Selectable BIOS type: EPROM, 5V flash memory, or 12V flash memory
- Lithium coin battery
- Shadow RAM for ROM BIOS and video ROM to improve system performance
- Hardware "green" function
- CPU stop clock mode for Intel/AMD/Cyrix CPUs

## 1.2 Unpacking

The main board comes securely packaged in a sturdy cardboard shipping carton. In addition to this *User's Guide*, the shipping carton contains:

- The main board
- Cables: IDE, FDD, serial, and parallel port
- IDE Drivers distribution floppy disk: includes drivers for Windows 3.1, Windows NT 3.x, OS/2 2.x, and Novell Netware.

If any of these items is missing or damaged, contact the dealer from whom you purchased the main board. Save the shipping materials and carton in case you want to ship or store the board in the future.

*NOTE:* Leave the main board in its original packing until you are ready to install it.

Inside the carton, the main board is sandwiched between sheets of sponge and packed in an anti-static bag. After you unpack the board, inspect it for damage. Press down all the integrated circuits to make sure they are properly seated in their sockets. Do not apply power to the board if it appears to have been damaged.

## 1.3 Electrostatic Discharge Precautions

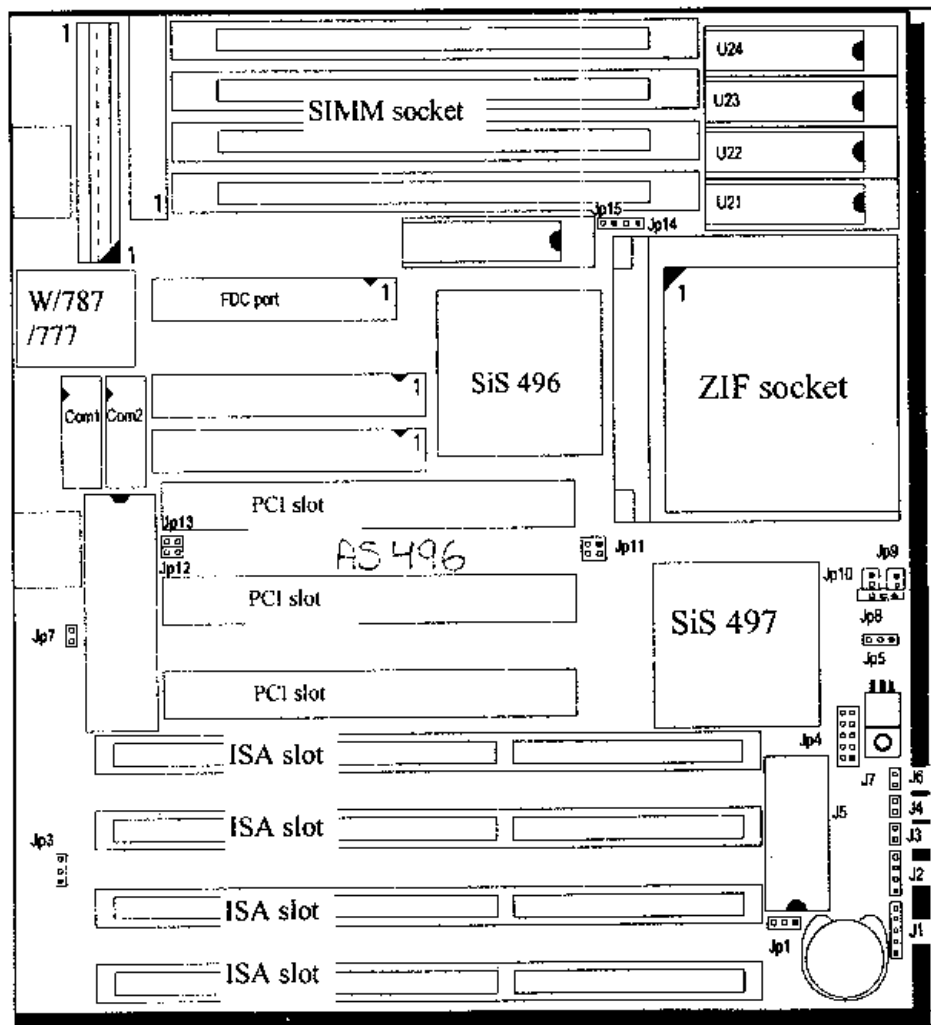
Make sure you ground yourself before handling the mainboard or other system components. Electrostatic discharge can easily damage the components. Note that you must take special precaution when handling the mainboard in dry or air-conditioned environments.

Abide by the precautions below to protect your equipment from electrostatic discharge:

- Do not remove the anti-static packaging until you are ready to install the mainboard and other system components.
- Ground yourself before removing any system component from its protective anti-static packaging. You can ground yourself by grasping the expansion slot covers or other unpainted portions of the computer chassis.
- Frequently ground yourself while working, or use a grounding strap.
- Handle the mainboard by the edges and avoid touching its components.

## 1.4 Mainboard Layout

The layout diagram shows the location of connectors, major components, and jumper switches on the mainboard.



## 2 Setting Up the Mainboard

The below chapter is the procedures that you will follow to install and set up the mainboard in your computer system.

### 2.1 Installing a CPU and RAM

You can install and upgrade your mainboard by simply replacing the CPU and changing the settings of jumper switches on the board. The mainboard supports a wide variety of high-performance CPUs.

#### *Installing a CPU in the ZIF Socket*

If there is already a CPU in the ZIF socket, remove it by pulling the ZIF socket lever out to the side and then raising it. Then lift out the CPU.

*CAUTION: Static electricity can cause serious damage to integrated circuit chips. Avoid building up a static electricity charge in your body by touching a grounded object before you touch the chips and at frequent intervals as you handle the chips.*

#### **Install a CPU in the ZIF socket as follows:**

1. Turn off the system.
2. Find the ZIF socket. Refer to the mainboard layout in Chapter 1 for the location of ZIF socket on the board.
3. Raise the ZIF socket lever by pulling it out to the side and then pulling up.
4. Align the pin 1 corners of the CPU and the ZIF socket and place the CPU in the socket.
5. Press the ZIF socket lever down. The socket plate will slide forward. When the CPU is installed fully, the ZIF socket lever should snap into place.

### Installing DRAM

The mainboard provides a variety of possible DRAM configurations. The board has four SIMM sockets; each socket can accept a 1MB, 4MB, 8MB, 16MB, or 32MB SIMM. Depending on the desired memory capacity and the SIMM size, you can install one, two, or four SIMMs on the board.

#### Install a SIMM into an on-board socket as follows:

1. Turn off the system.
2. Align the SIMM so that the pin 1 marking corresponds to the SIMM socket pin 1 marking. The SIMM can fit in the socket in one way only; you cannot insert the SIMM incorrectly.
3. Holding the SIMM at about a 15-degree angle to the board, insert the SIMM's "golden finger" connectors into the socket.
4. Firmly press down on both sides of the SIMM so that it snaps into the locking tabs at either end of the SIMM socket. You will hear a click when the SIMM snaps into place. A retaining peg at each end of the socket fits into a hole on the SIMM.

To remove a SIMM from a socket, carefully pry the tab away from each end of the SIMM. The SIMM should fall back to an angle; you can then pull the SIMM from the socket.

### Installing SRAM Cache Memory

The mainboard has sockets for 128KB, 256KB, or 512KB of SRAM cache memory.

**CAUTION:** Static electricity can cause serious damage to integrated circuit chips. Avoid building up a static electricity charge in your body by touching a grounded object before you touch the chips and at frequent intervals as you handle the chips.

#### Install SRAM cache memory chips in on-board sockets as follows:

1. Turn off the system.
2. Refer to the mainboard layout in Chapter 1 for the location of SRAM sockets on the board. The description of jumper switches JP14-JP15 in the next chapter lists the type of chips to install for each memory configuration.
3. Align the chip so that the pin 1 notch on the chip corresponds to the notch on the appropriate board socket.

**NOTE:** The 32Kx8 SRAM chips have fewer pins than the board sockets. When installing these chips, make sure that the four pins at the pin 1 end of the socket are exposed.

4. Carefully but firmly press the chip into the socket, applying even pressure to both ends of the chip.
5. Repeat steps 3 and 4 for each SRAM chip.
6. Set jumpers JP14-JP15 to choose 128KB, 256KB, or 512KB of installed SRAM cache memory.

## 2.2 Making Connections

This section describes some of the connectors on the mainboard. See the board layout in Chapter 1 for the location of the connectors. Refer to the appendix for a listing of the connectors' pin signals.

**CAUTION:** Before making connections on the board, be sure that the power to the system is turned off.

Connector	Function
PRINT	Printer Connector (LPT1)
IDE1	Primary Secondary IDE Connector
IED2	Secondary IDE Connector
FDC:	FDD Connector













COM1	ComA ports
COM2	ComB Ports
J1	Keylock & Power LED Connector
J2	Speaker Connector
J3	Reset Connector
J4	Turbo LED Connector
J6	Turbo Switch
J12	HDD1 LED
J13	HDD2 LED



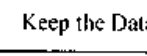
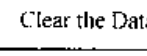
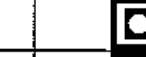

## 2.3 Replacing the Lithium Battery

The mainboard's Lithium 2032 "coin" battery provides long-lasting, leak proof power for CMOS memory. Unlike other types of batteries, the Lithium battery will not release chemicals that may damage the board. The Lithium battery is not rechargeable, but replacements are readily available at convenience stores, supermarkets, and camera shops.

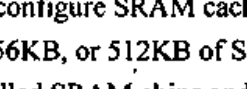


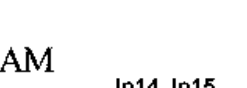
## 3 Setting Jumper Switches

You can configure the operating characteristics of the main board by setting jumper switches on the board. This chapter presents a detailed description of the jumper switches. Refer to the main board layout in Chapter 1 for the positions of the jumpers on the board.

Function	Jumper	Selection	Jumper Setting
Voltage Selection	JP5	3.3 V	 1
		5V	 1
CPU Type	JP8	Normal	 1
		OverDrive	 1
CPU Type	JP9	Write Back	 1
		Write Through	 1
Clock	JP10	3x Frequency	 1
		2x, 4x Frequency	 1
CPU external speed	JP11	25 Mhz	 3 1
		33 Mhz	 3 1
		40 Mhz	 3 1
		50 Mhz	 3 1

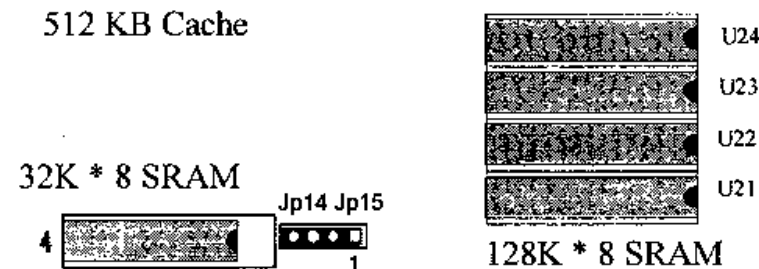
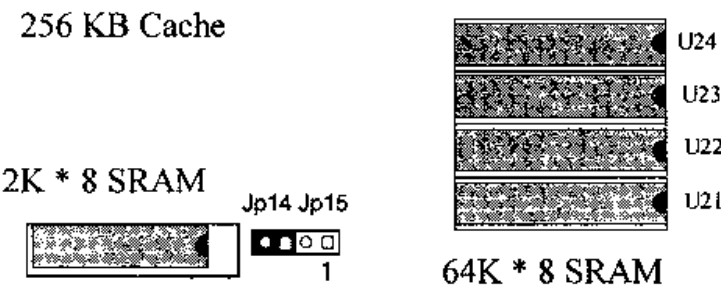
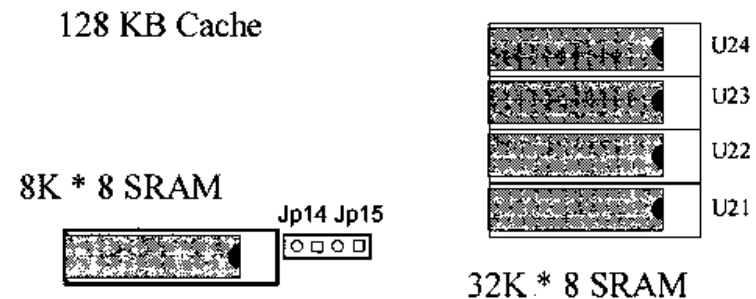
Function	Jumper	Selection	Jumper Setting
BIOS Type	JP1	EPROM/5V Flash	 1
		12V Flash Memory	 1
BIOS setup Data	JP3	Keep the Data	 1
		Clear the Data	 1
Monitor Type	JP7	Color Monitor	 1
		Monochrome Monitor	 1

**WARNING!** *Selecting the wrong voltage may severely damage your CPU. For voltage information, refer to the documentation provided with the CPU.*

CPU Voltage	3.3V	3.45V	3.6V	4.0V
JP4				

### JP14 & JP15: Cache Memory Configuration

Use these jumpers to configure SRAM cache memory. The main board has sockets for 128KB, 256KB, or 512KB of SRAM cache memory. The figure below shows the installed SRAM chips and cache size configuration settings.



## 4 Award BIOS Setup

The ROM chips of your main board are configured with a customized Basic Input/Output System (BIOS) from Award Software Inc. The BIOS is a set of permanently recorded program routines that give the system its fundamental operational characteristics. It also tests the computer and determines how the computer reacts to specific instructions that are part of programs.

### 4.1 Entering the CMOS Setup Program

Use the CMOS Setup program to modify the system parameters to reflect the options installed in your system and to customize your system as desired.

1. Turn on or reboot the system. After the BIOS performs a series of diagnostic checks, the following message appears:

Press <DEL> to enter SETUP"

2. Press the <DEL> key to enter the CMOS Setup program. The main menu appears:

ROM PCI/ISA BIOS  
CMOS SETUP UTILITY  
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP	PASSWORD SETTING
BIOS FEATURES SETUP	IDE HDD AUTO DETECTION
CHIPSET FEATURES SETUP	HDD LOW LEVEL FORMAT
POWER MANAGEMENT SETUP	SAVE & EXIT SETUP
PCI CONFIGURATION SETUP	EXIT WITHOUT SAVING
LOAD BIOS DEFAULTS	
LOAD SETUP DEFAULTS	
Esc : Quit	
F10 : Save & Exit Setup	
	↑↓→← : Select Item
	(Shift)F2 : Change Color
Time, Date, Hard Disk Type...	

3. Choose a setup option with the arrow keys and press <Enter>. See the following sections for a brief description of each setup option.

In the main menu, press F10 (Save & Exit Setup") to save your changes and reboot the system. Choosing "EXIT WITHOUT SAVING" ignores your changes and exits the program. Pressing <ESC> anywhere in the program returns you to the main menu.

#### Quick Setup

In most cases, you can quickly configure the system by choosing the following main menu options:

1. Choose "STANDARD CMOS SETUP" from the main menu. This option lets you configure the date and time, hard disk drive type, floppy disk drive type, primary display, and more.
2. Choose "LOAD SETUP DEFAULTS" from the main menu. This loads the setup default values from the BIOS Features Setup and Chipset Features Setup screens.
3. In the main menu, press F10 (Save & Exit Setup") to save your changes and reboot the system.

## 4.2 Menu Options

The main menu options of the CMOS Setup program are described in the table below and in the following sections of this chapter.

Option	Function
STANDARD CMOS SETUP	Configure the date & time, hard disk drive type, floppy disk drive type, primary display type, and more.
BIOS FEATURES SETUP	Configure advanced system options such as enabling/disabling cache memory and shadow RAM.
CHIPSET FEATURES SETUP	Configure advanced chipset options such as DRAM and cache speed.
POWER MANAGEMENT SETUP	Configure power management features such as timer selects.
PCI CONFIGURATION SETUP	Configure PCI slots and onboard I/O functions.
LOAD BIOS DEFAULTS	Loads BIOS default values. Use this option as a diagnostic aid if your system behaves erratically.
LOAD SETUP DEFAULTS	Loads optimized BIOS settings.
PASSWORD SETTING	Configures the system so that a password is required when the system boots or you attempt to enter the CMOS setup program.
IDE HDD AUTO DETECTION	Automatically detects IDE hard disk drives and enters parameters into the Standard CMOS Setup. All IDE hard disk drives are detected as type 47 drives.
HDD LOW LEVEL FORMAT	Lets you search for bad tracks and format a hard disk drive.

### Standard CMOS Setup

1. Choose "STANDARD CMOS SETUP" from the main menu. The following screen appears:

```

ROM PCI/ISA BIOS
STANDARD CMOS SETUP
AWARD SOFTWARE, INC.

Date (mm:dd:yy) : Sun, Oct 19 1995
Time (hh:mm:ss) : 5 : 4 : 23

HARD DISKS          TYPE  SIZE  CYLS  HEAD  PRECOMP  LANDZ  SECTOR  MODE
-----
Primary Master    : None   0      0   0      0      0      0  -----
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, 3.5 in.
Drive B : None

Video : EGA/VGA
Halt On : All Errors

Base Memory: 640K
Extended Memory: 7168K
Other Memory: 384K
-----
Total Memory: 8192K

ESC : Quit          ←→ : Select Item      PU/PD/+/- : Modify
F1  : Help          (Shift)F2 : Change Color

```

2. Use the arrow keys to move between fields. Modify the selected field using the PgUp/PgDn/+/- keys. Some fields let you enter numeric values directly.

Date (mm/date/year)	Type the current date.
Time (hour:min:sec)	Type the current time (24-hour clock).
Hard disk C & D	Choose from the standard hard disk types 1 to 46, "User", and "None". If your drive is not one of the 46 predefined types, choose "User" and enter the following drive specifications: cylinders, heads, W/Boom, L/Z one, and capacity. Consult the documentation received with the drive for the values that will give you optimum performance.  If no hard disk is installed, choose "None."
Floppy drive A & B	Choose: 360KB / 5.25" 1.2MB / 5.25"



	<p>720KB / 3.5" 1.4M / 3.5" 2.88M/3.5" or Not Installed</p> <p><b>Note:</b> The W83787 chip doesn't support the 2.88M/3.5" drive.</p>
Video	<p>Choose: Monochrome CGA40, CGA80, or EGA/VGA</p>
Halt On	<p>Controls whether the system stops in case of an error.</p> <p>Choose: All Errors (the default) No Errors All, But Keyboard All, But Diskette All, But Disk/Key</p>

- After you have finished with the Standard CMOS Setup program, press the <ESC> key to return to the main menu.

### BIOS Features Setup

- Choose "BIOS FEATURES SETUP" from the main menu. The following screen appears:

ROM PCI/ISA BIOS BIOS FEATURES SETUP AWARD SOFTWARE, INC.			
Virus Warning	: Disabled	Video BIOS Shadow	: Enabled
CPU Internal Cache	: Enabled	C8000-CFFFF Shadow	: Disabled
External Cache	: Enabled	D0000-D7FFF Shadow	: Disabled
Quick Power On Self Test	: Disabled	D8000-DFFFF Shadow	: Disabled
Boot Sequence	: A,C		
Swap Floppy Drive	: Disabled		
Boot Up Floppy Seek	: Enabled		
Boot Up NumLock Status	: On		
Boot Up System Speed	: High		
Memory Parity Check	: Disabled		
TypeMatic Rate Setting	: Disabled		
TypeMatic Rate (Chars/Sec)	: 6		
TypeMatic Delay (Msec)	: 250		
Security Option	: Setup		
		ESC : Quit	↑↓←→ : Select Item
		F1 : Help	PU/PD/+/- : Modify
		F5 : Old Values (Shift)	F2 : Color
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

- Use the arrow keys to move between items and to select values. Modify the selected fields using the PgUp/PgDn keys. Press the <F1> "Help" key for information on the available options:

Virus Warning	When enabled, any attempt to write to the boot sector and partition table will halt the system and cause a warning message to appear. If this happens, you can use an anti-virus utility on a virus-free, bootable floppy disk to reformat and clean your system. The default setting is Enabled.
CPU Internal Cache	This setting enables the CPU internal cache. The default setting is Enabled.
External Cache	This setting enables the external cache. The default setting is Enabled.
Quick Power On Self Test	Speeds up POST after turning on the computer. When enabled, this setting will shorten or skip some check items during POST.
Boot Sequence	By default, the BIOS attempts to first boot from drive C, and then, if unsuccessful, from drive A. You can reverse this sequence with this option.

Swap Floppy Drive	Swaps the drive designation for A: and B: floppy disk drives.
Boot Up Floppy Seek	When enabled, the BIOS will check whether there is a floppy disk drive installed. The default setting is Enabled.
Boot Up Num Lock Status	Choose On or Off. On puts the numeric keypad in Num Lock mode at boot-up. Off puts the numeric keypad in arrow key mode at boot-up.
Boot Up System Speed	Choose High or Low. This option lets you choose system boot-up speed.
Memory Parity Check	When enabled, allows the normal memory parity check. When disabled, ignores the parity check (the default setting). You should disable this option if installed SIMMs have no parity chip.
Typematic Rate Setting	Choose Enabled or Disabled. Enable this option to adjust the keystroke repeat rate. Adjust the rate via Typematic Rate Delay and Typematic Rate.
Typematic Rate (Chars/Sec)	Choose the rate at which a character keeps repeating.
Typematic Rate Delay	Choose the delay between holding down a key and when the character begins repeating.
Security Option	<p>Choose Setup or System. This option lets you specify whether a password is required every time the system boots or only when an attempt is made to enter the CMOS Setup program.</p> <p>"Setup" – The password prompt only appears if you attempt to enter the CMOS Setup program.</p> <p>"System" – The password prompt appears each time the system is booted.</p> <p><b>Note:</b> The password function is disabled by default. For a description of enabling the password function, refer to the section "Change Password" later in this chapter.</p>

Video BIOS Shadow	When enabled, the ROM BIOS on the video display card is copied into system DRAM to enhance performance. The default setting is Enabled.
Shadow Option Group	When enabled, the ROM on the expansion card with the specific addresses is copied into system DRAM. It will also reduce the memory available by between 640KB and 1024KB. The default setting for this feature is Disabled.

- After you have finished with the BIOS Features Setup, press the <ESC> key to return to the main menu.

### Chipset Features Setup

Use this setup to enable/disable features of the main board's chipset.

- Choose "CHIPSET FEATURES SETUP" from the main menu. The following screen appears:

ROM PCI/ISA BIOS CHIPSET FEATURES SETUP AWARD SOFTWARE, INC.			
Auto Configuration	: Enabled	Onboard 496B IDE Port	: Both
ISA Bus Clock	: 7.159MHz	IDE 0 Master Mode	: Auto
Cache Write Cycle	: 3 CCLK	IDE 0 Slave Mode	: Auto
Cache Burst Read Cycle	: 2 CCLK	IDE 1 Master Mode	: Auto
L2 Cache/DRAM Cycle WS	: 3 CCLK	IDE 1 Master Mode	: Auto
DRAM RAS To CAS Delay	: 3 CCLK	IDE HDD Block Mode	: Enable
DRAM Write Cycle	: 1 WS	Onboard FDD Controller	: Enabled
DRAM Write CAS Pulse	: 2 CCLK	Onboard Serial Port 1	: COM1 (3F8h)
DRAM CAS Precharge Time	: 2 CCLK	Onboard Serial Port 2	: COM2 (2F8h)
DRAM Speed	: Fastest	Onboard Parallel Port	: 378h
L2 Cache Policy	: Write Back	Onboard Parallel Mode	: EPF/SPP
L2 Cache Tag Bits	: 7 bits	Serial Port 1 MIDI	: Disabled
		Serial Port 2 MIDI	: Disabled
		ESC : Quit	↑↓→←: Select Item
		F1 : Help	PU/PD/+/- : Modify
		F5 : Old Values (Shift)	F2 : Color
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

- Move between items and select values by using the arrow keys. Modify the selected fields using the PgUp/PgDn keys. For information on the various options, press the <F1> key.
- After you have finished with the Chipset Features Setup, press the <ESC> key to return to the main menu.

## Power Management Setup

The Power Management Setup controls the main board's "green" features. The video features work with a "green" monitor.

- Choose "Power Management Setup" from the main menu. The following screen appears:

ROM PCI/LSA BIOS  
POWER MANAGEMENT SETUP  
AWARD SOFTWARE, INC.

```

Power Management : Disable      IRQ4 (COM 1)      : Enable
PM Control By APM : Yes          IRQ5 (LPT 2)     : Enable
Video Off Option  : Susp.Stby -> Off  IRQ6 (Floppy Disk): Enable
Video Off Method  : V/H SYNC+Blank  IRQ7 (LPT 1)     : Enable
Suspend Switch    : Enable          IRQ8 (RTC Alarm) : Disable
                  :                               IRQ9 (IRQ2 Redir) : Enable
** PM Timers **   :                               IRQ10 (Reserved) : Enable
HDD Off After     : Disable      IRQ11 (Reserved) : Enable
Doze Mode         : Disable      IRQ12 (PS/2 Mouse): Enable
Standby Mode      : Disable      IRQ13 (Coprocessor): Enable
Suspend Mode      : Disable      IRQ14 (Hard Disk) : Enable
                  :                               IRQ15 (Reserved) : Enable

** PM Events **   :                               ESC : Quit          ↑↓→← : Select Item
PCI Master Activity: Enable      F1  : Help            PU/PD/+/- : Modify
COM Ports Activity : Enable      F5  : Old Values (Shift)F2 : Color
LPT Ports Activity : Enable
HDD Ports Activity : Enable
DMA Ports Activity : Enable
VGA Activity       : Disable
IRQ3 (COM 2)       : Enable
  
```

- Move between items and select values by using the arrow keys. Modify the selected fields using the PgUp/PgDn keys. For information on the various options, press the <F1> key.

Power Management	Controls the system Doze, System Standby, and System Suspend Timer features. There are three options:  User Define: Lets you customize all power-saving timer features.  Optimize: This is the recommended setting for general use.  Disable: Disables the system power management feature.
HDD Off After	Settings range from 1 min. to 15 mins. and Disabled. The IDE hard drive will spin down if it is not accessed within a specified length of time.
Doze Mode	Settings range from 1 min. to 30 mins. and Disabled. The system speed will change from turbo to slow by throttling the CPU clock if no Power Management events occur for a specified length of time. The system will return to full power when a Power Management event is detected.
Standby Mode	Settings range from 1 min. to 30 mins. and Disabled. The system speed will change from turbo to slow by throttling the CPU clock and the video signal is suspended if no Power Management events occur for a specified length of time. The system will return to full power when a Power Management event is detected.
Suspend Mode	Settings range from 1 min. to 30 mins. and Disabled. The CPU clock is stopped and the video signal is suspended if no Power Management events occur for a specified length of time. The system will return to full power when a Power Management event is detected.

- After you have finished with the Power Management Setup, press the <ESC> key to return to the main menu.

## PCI Configuration Setup

This setup is used to route PCI interrupts to designated ISA interrupts.

1. Choose "PCI Configuration Setup" from the main menu. The following screen appears:

```

ROM PCI/ISA BIOS
PCI & ONBOARD I/O SETUP
AWARD SOFTWARE, INC.

Slot 1 Using INT# : AUTO
Slot 2 Using INT# : AUTO
Slot 3 Using INT# : AUTO

1st Available IRQ : 9
2nd Available IRQ : 10
3rd Available IRQ : 11
4th Available IRQ : 12
PCI IRQ Activated By : Edge
PCI IDE 2nd Channel : Enable
PCI IDE IRQ Map To : PCI-AUTO
  Primary IDE INT# : A
  Secondary IDE INT# : B
Master Arbitration Protocol : Weak
CPU->PCI Mem Post Write Buf : Disable
CPU->PCI Memory Burst Write : Disable
PCI Master Burst Read/Write : Disable

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

2. Move between items and select values by using the arrow keys. Modify the selected fields using the PgUp/PgDn keys. For information on the various options, press the <F1> key.
3. After you have finished with the PCI Configuration Setup, press the <ESC> key to return to the main menu.

## Load BIOS Defaults

This is useful if you are having problems with the main board and need to debug or troubleshoot the system. The defaults loaded affect only the BIOS Features Setup and Chipset Features Setup screens. There is no effect on the Standard CMOS Setup.

To use this feature, highlight it on the main screen and press <Enter>. A line will appear on the screen asking if you want to load the BIOS default values.

```

ROM PCI/ISA BIOS
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP
BIOS FEATURES SETUP
CHIPSET FEATURES SETUP
POWER MANAGEMENT SETUP
PCI CONFIGURATION
LOAD BIOS DEFAULT
LOAD SETUP DEFAULTS

PASSWORD SETTING
IDE HDD AUTO DETECTION
HDD LOW LEVEL FORMAT
SAVE & EXIT SETUP

SAVING

Load BIOS Defaults (Y/N)? N

ESC : Quit          ↑↓←→ : Select Item
F10 : Save & Exit Setup (Shift)F2 : Change Color

Load BIOS Defaults except Standard CMOS Setup
  
```

Press the <Y> key and then press <Enter> if you want to load the BIOS defaults.

## Load Setup Defaults

This loads optimized settings that are stored in the BIOS ROM. The auto-configured settings affect only the BIOS Features Setup and Chipset Features Setup screens. There is no effect on the Standard CMOS Setup.

To use this feature, highlight it on the main screen and press <Enter>. A line will appear on the screen asking if you want to load the Setup default values.

```

ROM PCI/ISA BIOS
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP          PASSWORD SETTING
BIOS FEATURES SETUP          IDE HDD AUTO DETECTION
CHIPSET FEATURES SETUP       HDD LOW LEVEL FORMAT
POWER MANAGEMENT SETUP       SAVE & EXIT SETUP
PCI & ONBOARD I/O           SAVING
LOAD BIOS DEFAULTS           Load SETUP Defaults (Y/N)? N
LOAD SETUP DEFAULTS

Esc : Quit                    ↑↓←→ : Select Item
F10 : Save & Exit Setup       (Shift)F2 : Change Color

Load SETUP Defaults except Standard CMOS Setup

```

Press the <Y> key and then press <Enter> if you want to load the Setup defaults.

### *Password Setting*

The Password Setting option lets you prevent unauthorized system boot-up or unauthorized use of CMOS Setup. The password function is disabled by default. You can use this option to enable the password function or, if the password function is already enabled, change the password.

To change the password, you must first enter the current password. Then type your new password at the prompt. The password is case sensitive and you can use up to 8 alphanumeric characters. Press <Enter> after entering the password. At the next prompt, confirm the new password by typing it and pressing <Enter> again.

```

ROM PCI/ISA BIOS
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP          PASSWORD SETTING
BIOS FEATURES SETUP          IDE HDD AUTO DETECTION
CHIPSET FEATURES SETUP       HDD LOW LEVEL FORMAT
POWER MANAGEMENT SETUP       SAVE & EXIT SETUP
PCI CONFIGURATION SETUP      EXIT WITHOUT SAVING
LOAD BIOS DEFAULTS           Enter Password:
LOAD SETUP DEFAULTS

Esc : Quit                    ↑↓←→ : Select Item
F10 : Save & Exit Setup       (Shift)F2 : Change Color

Change/Set/Disable Password

```

After you use this option to enable the password function, use the "Security Option" in "BIOS Features Setup" to specify whether a password is required every time the system boots or only when an attempt is made to enter the CMOS Setup program.

### *IDE HDD Auto Detection*

If your system has an IDE hard disk drive, you can use this utility to detect its parameters and enter them into the Standard CMOS Setup automatically. If the auto-detected parameters displayed do not match the ones that should be used for your drive, do not accept them. Press the <N> key to reject the values and enter the correct values manually from the Standard CMOS Setup screen.

- Choose "IDE HDD AUTO DETECTION" in the main menu and press <Enter>. The following screen appears:

```

ROM PCI/ISA BIOS
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

```

HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master :		540	524	32	0	1048	63	LBA
Primary Slave :								
Secondary Master :								
Secondary Slave :								
Select Secondary Slave Option (N=Skip) : N								
OPTIONS	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE	
1(Y)	0	0	0	0	0	0	0	NORMAL

ESC : skip

- Press <ESC> to exit to the main menu.

### *HDD Low Level Format*

This utility looks for information on the selected hard disk drive, searches for bad tracks, and lets you format the drive.

```

ROM PCI/ISA BIOS
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

```

HARD DISK initializing Please wait a moment...								
	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE	
Primary Master :	540	524	32	0	1048	63	LBA	
Primary Slave :	0	0	0	0	0	0	NORMAL	
Secondary Master :	0	0	0	0	0	0	LBA	
Secondary Slave :	0	0	0	0	0	0	NORMAL	

When creating a bad track list, you can:

- auto scan the drive for bad tracks
- add bad tracks to the list
- modify bad tracks
- delete bad tracks
- clear the bad tracks table

When formatting the hard disk drive, you can:

- select the interleave number of the hard disk drive
- auto scan bad tracks, then format each track
- perform a low-level disk format

## 4.3 The Flash Memory Utility

If your main board has flash memory, you can use the Flash Memory Utility to update the system BIOS from a disk file. Contact your dealer to obtain the Flash Memory Utility and the latest version of the system BIOS disk file.

*CAUTION: Improperly changing the system BIOS will cause the system to malfunction.*

## 4 Award BIOS Setup

1. Insert the Flash Memory Utility distribution floppy disk in drive A:
2. At the DOS prompt, type `A:>AWDFLASH` and press <Enter>. The following screen appears:

FLASH MEMORY WRITER v1.2	
Copyright (C) 1993, Award Software, Inc.	
For S1S501-3A01A00	C2/21/1995
Flash Type -	
File Name to Program :	<input type="text"/>
Error Message:	

3. Enter the name of the system BIOS disk file in the File Name to Program field. The following message appears in the Error Message field:  
Are you sure to program (y/n)?
4. To update the flash memory from the system BIOS disk file, type Y. After updating, the computer will automatically reboot.

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