

# **VL-BUS**

## **TRUE GREEN MAIN BOARD USER'S MANUAL**

# **AV7543 SERIES MOTHERBOARD MANUAL**

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## **Warranty Information**

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## Mainboard Features

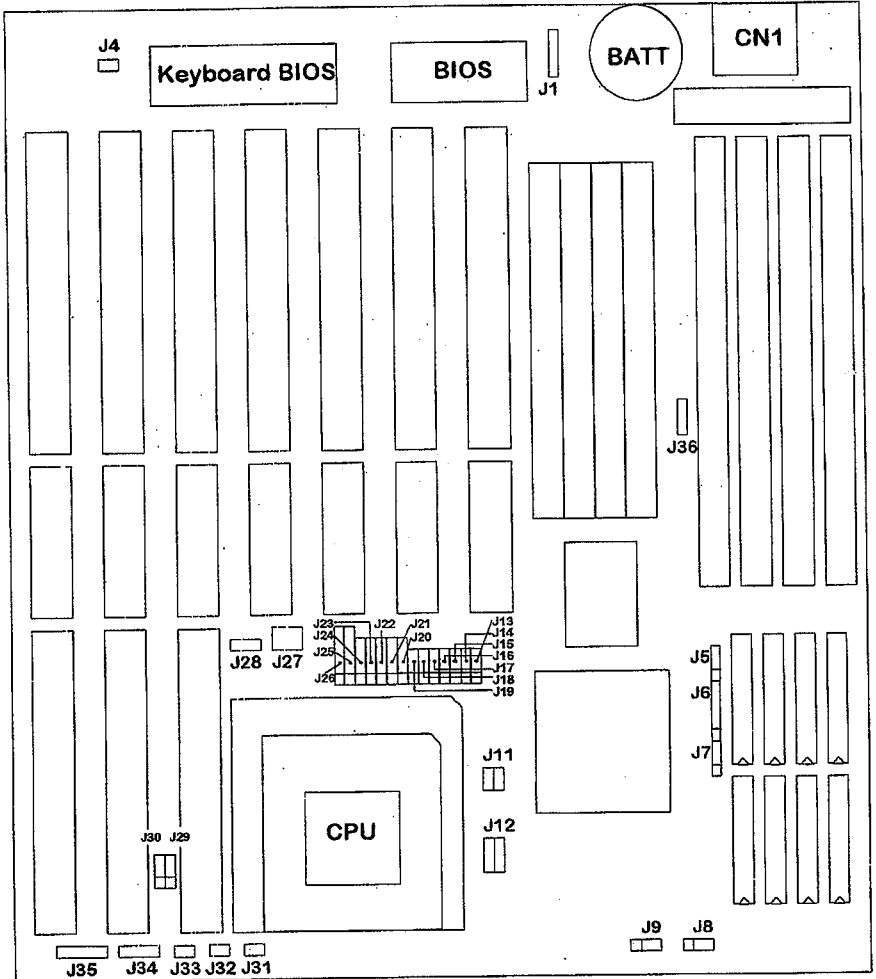
The AV-7543 mainboard has the following performance and function enhanced features built in:

- Supports both 3.3-volt and 5-volt microprocessors.
- Compatible with all 486-type SL-enhanced and non-SL microprocessors from Intel, AMD and Cyrix.
- Provides ZIF (Zero Insertion Force) PGA CPU socket that can accommodate 486SX, 487SX, 486DX, 486DX2, P24T or OverDrive PGA CPU. There is also an enhanced version which can use 486DX4 CPU directly on the ZIF socket without the need for a special adapter.
- Uses either 30-pin or 72-pin SIMM DRAM modules or the combination of both to provide up to 128 MB memory for flexible and economical purposes.
- Supports up to 1 MB external cache.
- Provides three 32-bit VESA Bus and seven 16-bit ISA bus slots.
- Provides a switch connector for an optional front-panel suspend button.
- Compatible with SL-enhanced CPU for power management functions with BIOS-built-in power management setup utilities.

- Two connectors for power management signal cables from a Green-PC power supply.
- Compatible with EPA Energy Star specification and power management utilities.
- Uses different color jumpers for easy jumper setting.
- DX4 processor frequency diminishes into power-saving mode.

## **Mainboard Layout**

The figure below shows the locations of jumpers, connectors and major components on the mainboard:



### CPU TYPE SELCTION

	J13	J14	J15	J16	J17	J18	J21	J22	J23	J24	J25	J26
SX	1-2	2-3	2-3	2-3	O	O	O	O	O	O	O	O
DX	1-2	2-3	2-3	1-2	O	O	O	3-4	O	O	O	O
SXL	1-2	2-3	2-3	2-3	1-2	O	3-4	O	O	2-3	4-5	3-4
DXL	1-2	2-3	2-3	1-2	1-2	O	3-4	3-4	O	2-3	4-5	3-4
M6	2-3	1-2	2-3	2-3	O	2-3	O	O	2-3	1-2	2-3	2-3
										3-4		4-5
M7	2-3	1-2	2-3	1-2	O	2-3	3-4	3-4	2-3	1-2	2-3	2-3
P24T	1-2	1-2	1-2	1-2	O	1-2	O	2-3	1-2	2-3	1-2	3-4
P24D	1-2	1-2	1-2	1-2	O	1-2	1-2	3-4	O	2-3	4-5	1-2
												3-4

### CLOCK SPEED SELCTION

	25M HZ	33M HZ	40M HZ	50M HZ
J27 1-2	O	S	O	S
J27 3-4	O	S	S	O
J27 5-6	S	S	S	O

### CACHE SIZE SELCTION

	128K	256K	256K	512K
DATA SRAM	32K*8X4	32K*8X8	64K*8X4	128K*8X4
J5	1-2	2-3	1-2	1-2
J6	1-2,3-4	2-3,4-5	1-2,3-4	1-2,3-4
J7	2-3	2-3	1-2	2-3
J8	1-2	1-2	1-2	2-3
J9	1-2	2-3	2-3	2-3

### OTHER JUMPERS

J1	2-3 : NORMAL 1-2 : EXTERNAL BAT CONNECTOR	J30	VESA CLOCK STATE JUMPER 1-2 : <= 33MHZ 2-3 : > 33MHZ
J4	SHORT : CGA OPEN : MONO,EGA,VGA	J31	TURBO LED
J11	EXTERNAL GREEN CONNECTOR	J32	TURBO SWITCH
J12	CPU VOLTAGE SELECT 1-3,2-4 : FOR 3.3V CPU 3-5,4-6 : FOR 5V CPU	J33	RESET SWITCH
J19	AMD CPU INTERNAL CLK SELECT 1-2 : X3 2-3 : X2	J34	SPEAKER
J20	CYRIX CPU STATE JUMPER 1-2 SHORT : X2 1-2 OPEN : X1	J35	KEYLOCK & POWER LED
J29	VESA WAIT STATE JUMPER 1-2 : 0 WAIT 2-3 : 1 WAIT	J36	SIM5--SIM8 BANK SELECT 1-2 : BANK2 2-3 : BANK0

## **Memory Installation and Upgrade**

The mainboard uses 30-pin SIMMs and/or 72-pin SIMMs depending on which of the following three SIMM socket configurations built on the mainboard:

- i. Four 30-pin SIMM sockets and Four 72-pin SIMM sockets divided into four memory banks (the four 30-pin sockets and the first 72-pin socket are the first bank, and each of the remaining three 72-pin socket functions as a bank). For the first bank, you can not mix 30-pin and 72-pin SIMMs together for which only four 30-pin SIMMs or one 72-pin SIMM can be used.
- ii. Four 72-pin SIMM sockets divided into four memory banks (each of the four 72-pin SIMM sockets functions as a bank),
- iii. Eight 30-pin SIMM sockets divided into two memory banks (the first four 30-pin SIMM sockets acts as the first bank and the last four socket as the second bank),

The mainboard can support up to a maximum of 64 megabytes of memory on board using one of the following three configurations of DRAM SIMM modules:



## Installing The SIMM Modules

All the SIMMs have to be 80 nanosecond (or faster), fast page mode memory modules. To install a SIMM memory module, carefully follow the following steps:

- i. The modules can only fit into a socket one way. An orientation cut-out will prevent you from inserting them the wrong way. Insert the SIMM module's gold edge connectors into the socket at a 60-degree angle.
- ii. Press the module forward onto the socket's vertical posts, so that the alignment pins at the top of each post fit into the circular holes at each end of the module.
- iii. The module should clip into the locking position. If the retaining clips at each end of the socket does not snap behind the module, the SIMM module is probably not inserted fully into the socket.

## Memory Configurations

In the following tables, /S stands for single side 72-pin DRAM SIMM and /D stands for double side 72-pin DRAM SIMM. All the 30-pin SIMMs are single side only. For 72-pin SIMM sockets, all banks can use single side SIMMs, but only Bank 0 and Bank 2 can use double side SIMMs.

**i. One Banks of Four 30-pin SIMM and One 72-pin SIMM socket with Three Banks of One 72-pin SIMM Socket Each**

Bank0		Bank1	Bank2	Bank3	Total
30pin x 4	72pin x 4	72pin x 4	72pin x 4	72pin x 4	
256 KBx4					1 MB
256 KBx4		1 MB/S			2 MB
256 KBx4		1 MB/S	4 MB/S		6 MB
256 KBx4		1 MB/S	4 MB/S	4 MB/S	10 MB
256 KBx4		1 MB/S	8 MB/D		10 MB
256 KBx4		1 MB/S	16 MB/S		18 MB
256 KBx4		4 MB/S			5 MB
256 KBx4		16 MB/S			17 MB
	1 MB/S				1 MB
	1 MB/S	1 MB/S			2 MB
	1 MB/S	1 MB/S	4 MB/S		6 MB
	1 MB/S	1 MB/S	4 MB/S	4 MB/S	10 MB
	1 MB/S	1 MB/S	8 MB/D		10 MB
	1 MB/S	1 MB/S	16 MB/S		18 MB
	1 MB/S	4 MB/S			5 MB
	1 MB/S	16 MB/S			17 MB
	2 MB/D				2 MB
	2 MB/D		4 MB/S		6 MB
	2 MB/D		4 MB/S	4 MB/S	10 MB
	2 MB/D		8 MB/D		10 MB
	2 MB/D		16 MB/S		18 MB
1 MBx4					4 MB
1 MBx4		4 MB/S			8 MB
1 MBx4		4 MB/S	4 MB/S		12 MB
1 MBx4		4 MB/S	4 MB/S	4 MB/S	16 MB
1 MBx4		4 MB/S	8 MB/D		16 MB
1 MBx4		4 MB/S	16 MB/S		24 MB
1 MBx4		4 MB/S	16 MB/S	16 MB/S	40 MB
1 MBx4		4 MB/S	32 MB/D		40 MB
1 MBx4		16 MB/S			20 MB

<i>Bank0</i>		<i>Bank1</i>	<i>Bank2</i>	<i>Bank3</i>	<i>Total</i>
<i>30pin x 4</i>	<i>72pin x 4</i>	<i>72pin x 4</i>	<i>72pin x 4</i>	<i>72pin x 4</i>	
1 MBx4		16 MB/S	16 MB/S		36 MB
	4 MB/S				4 MB
	4 MB/S	4 MB/S			8 MB
	4 MB/S	4 MB/S	4 MB/S		12 MB
	4 MB/S	4 MB/S	4 MB/S	4 MB/S	16 MB
	4 MB/S	4 MB/S	8 MB/D		16 MB
	4 MB/S	4 MB/S	16 MB/S		24 MB
	4 MB/S	4 MB/S	16 MB/S	16 MB/S	40 MB
	4 MB/S	4 MB/S	32 MB/D		40 MB
	4 MB/S	16 MB/S			20 MB
	4 MB/S	16 MB/S	16 MB/S		36 MB
	8 MB/D		8 MB/D		16 MB
	8 MB/D		4 MB/S		12 MB
	8 MB/D		4 MB/S	4 MB/S	16 MB
	8 MB/D		16 MB/S		24 MB
	8 MB/D		16 MB/S	16 MB/S	40 MB
	8 MB/D		32 MB/D		40 MB
4 MBx4					16 MB
4 MBx4		16 MB/S			32 MB
4 MBx4		16 MB/S	16 MB/S		48 MB
4 MBx4		16 MB/S	16 MB/S	16 MB/S	64 MB
4 MBx4		16 MB/S	32 MB/D		64 MB
	16 MB/S				16 MB
	16 MB/S	16 MB/S			32 MB
	16 MB/S	16 MB/S	16 MB/S		48 MB
	16 MB/S	16 MB/S	16 MB/S	16 MB/S	64 MB
	16 MB/S	16 MB/S	32 MB/D		64 MB
	32 MB/D				32 MB
	32 MB/D		32 MB/D		64 MB
	64 MB/S	64 MB/S			128 MB

**ii. Four Banks of One 72-pin SIMM Socket Each**

<b>Bank0</b>	<b>Bank1</b>	<b>Bank2</b>	<b>Bank3</b>	<b>Total</b>
<b>72pin x 1</b>	<b>72pin x 1</b>	<b>72pin x 1</b>	<b>72pin x 1</b>	
1 MB/S				1 MB
1 MB/S	1 MB/S			2 MB
1 MB/S	1 MB/S	4 MB/S		6 MB
1 MB/S	1 MB/S	4 MB/S	4 MB/S	10 MB
1 MB/S	1 MB/S	8 MB/D		10 MB
1 MB/S	1 MB/S	16 MB/S		18 MB
1 MB/S	4 MB/S			5 MB
1 MB/S	16 MB/S			17 MB
2 MB/D				2 MB
2 MB/D		4 MB/S		6 MB
2 MB/D		4 MB/S	4 MB/S	10 MB
2 MB/D		8 MB/D		10 MB
2 MB/D		16 MB/S		18 MB
4 MB/S				4 MB
4 MB/S	4 MB/S			8 MB
4 MB/S	4 MB/S	4 MB/S		12 MB
4 MB/S	4 MB/S	4 MB/S	4 MB/S	16 MB
4 MB/S	4 MB/S	8 MB/D		16 MB
4 MB/S	4 MB/S	16 MB/S		24 MB
4 MB/S	4 MB/S	16 MB/S	16 MB/S	40 MB
4 MB/S	4 MB/S	32 MB/D		40 MB
4 MB/S	16 MB/S			20 MB
4 MB/S	16 MB/S	16 MB/S		36 MB
8 MB/D		8 MB/D		16 MB
8 MB/D		4 MB/S		12 MB
8 MB/D		4 MB/S	4 MB/S	16 MB
8 MB/D		16 MB/S		24 MB
8 MB/D		16 MB/S	16 MB/S	40 MB
8 MB/D		32 MB/D		40 MB

<b>Bank0</b>	<b>Bank1</b>	<b>Bank2</b>	<b>Bank3</b>	<b>Total</b>
<b>72pin x 1</b>	<b>72pin x 1</b>	<b>72pin x 1</b>	<b>72pin x 1</b>	
16 MB/S				16 MB
16 MB/S	16 MB/S			32 MB
16 MB/S	16 MB/S	16 MB/S		48 MB
16 MB/S	16 MB/S	16 MB/S	16 MB/S	64 MB
16 MB/S	16 MB/S	32 MB/D		64 MB
32 MB/D				32 MB
32 MB/D		32 MB/D		64 MB
64 MB/S	64 MB/S			128 MB

**iii. Two Banks of Four 30-pin SIMM Sockets Each**

<b>Bank0</b>	<b>Bank1</b>	<b>Total</b>
<b>30 pin x 4</b>	<b>30 pin x 4</b>	
256 KB x4		1 MB
256 KB x4	256 KBx4	2 MB
1 MBx4		4 MB
1 MBx4	1 MBx4	8 MB
4 MBx4		16 MB
1 MBx4	4 MBx4	20 MB
4 MBx4	4 MBx4	32 MB
16 MBx4	16 MBx4	128 MB

## **Cache Memory**

The mainboard provides four external cache memory options -- 128KB, 256KB, 512KB. Increasing the cache size will improve the system performance.

## Installing Cache Memory

The data cache memory banks have eight SRAM chip sockets divided into two banks of four chip sockets -- Bank 0 and Bank 1. Each cache configuration also needs a Tag SRAM in a separate socket. All SRAM must have a speed of 20 nanosecond (or faster). The table below shows all cache configurations and their appropriate jumper settings.

CACHE SIZE SELCTION

	128K	256K	256K	512K
DATA SRAM	32K*8X4	32K*8X8	64K*8X4	128K*8X4
J5	1-2	2-3	1-2	1-2
J6	1-2,3-4	2-3,4-5	1-2,3-4	1-2,3-4
J7	2-3	2-3	1-2	2-3
J8	1-2	1-2	1-2	2-3
J9	1-2	2-3	2-3	2-3

## System Speed Setting

The mainboard can be configured to either high or low speed. You can switch between high and low speeds by using special key commands or toggling the turbo switch .

- **Special Key Commands**
  - For high speed, press <Alt> <Ctrl> <+> simultaneously.
  - For low speed, press <Alt> <Ctrl> <-> simultaneously.
- **Toggling the Turbo Switch**
  - For high speed, set the turbo switch to the OFF (depressed) position.

- For low speed, set the turbo switch to the ON (released) position.

## CPU Type Selection

The mainboard can support the Intel 486SX, 487SX, 486DX, 486DX2, 486DX4, 486 OverDrive and Pentium OverDrive. The table below shows how to the jumper settings for the CPUs:

CPU TYPE SELCETION

	J13	J14	J15	J16	J17	J18	J21	J22	J23	J24	J25	J26
SX	1-2	2-3	2-3	2-3	O	O	O	O	O	O	O	O
DX	1-2	2-3	2-3	1-2	O	O	O	3-4	O	O	O	O
SXL	1-2	2-3	2-3	2-3	1-2	O	3-4	O	O	2-3	4-5	3-4
DXL	1-2	2-3	2-3	1-2	1-2	O	3-4	3-4	O	2-3	4-5	3-4
M6	2-3	1-2	2-3	2-3	O	2-3	O	O	2-3	1-2 3-4	2-3	2-3 4-5
M7	2-3	1-2	2-3	1-2	O	2-3	3-4	3-4	2-3	1-2	2-3	2-3
P24T	1-2	1-2	1-2	1-2	O	1-2	O	2-3	1-2	2-3	1-2	3-4
P24D	1-2	1-2	1-2	1-2	O	1-2	1-2	3-4	O	2-3	4-5	1-2 3-4



## CPU Speed Selection

The mainboard uses a CPU clock generator to generate a variety of CPU frequencies. The figure below shows how to set the CPU speed jumpers.

	25 MHz	33 MHz	40 MHz	50 MHz
J27 1-2	O	S	O	S
J27 3-4	O	S	S	O
J27 5-6	S	S	S	O

## VESA Identifier Jumpers

J29	1-2:0 wait state	2-3:1 wait state
J30	1-2:<=33 MHz	2-3:> 33 MHz

## Connectors

- **Turbo LED Connector (J31)**

Connector J31 can be connected to an LED display indicating the CPU speed. The display lights up when the CPU running at full speed.

- **Turbo Switch (J32)**

Connector J32 is the connector for the "Turbo" processor speed which allows you to switch between system speeds.

- **Reset Switch (J33)**

The switch is used to reboot the system. The connector should not be shorted all the time, otherwise the system will continually reset itself.

- **Speaker Connector (J34)**

Connector J34 is used for the front panel speaker connection.

- **Keylock and Power LED Connector (J35)**

Connector J35 provides for the front panel keylock and power LED connection. When it is connected to a lock on your system case, you can enable or disable the keyboard by switching the key.

- **External Green Connectors (J11)**

These two 2-pin connectors are for a power management control signal cable from a "Green PC" power supply or other "Green" devices (No polarity orientation).

- **External Battery Connector (J1)**

Connector J1 provides one external battery supply connection to a 3-volt power source.

## **Factory-set Jumpers**

The following jumpers normally will be set properly at the factory or by the dealers. They are not meant to be changed after the computer system is assembled. They should not be set without proper knowledge about the mainboard. If your dealer first before changing anything.

- ***CPU Power Selection (J12)***

**J12**

1-3:

3.3-Volt microprocessors(default)

2-4:

3-5:

Other CPUs

4-6:

- ***Clock Skew Control (J28)***

**J28**

1-2 short: CPU clock ahead of others (default)

2-3 short: No clock skew

- ***Monitor Type (J4)***

**J4**

short: CGA

open: Mono, EGA, VGA (default)

# BIOS Setup Utility

## AWARD BIOS SETUP

ROM ISA BIOS (2C4I8000)  
CMOS SETUP UTILITY  
AWARD SOFTWARE, INC.

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

Figure 2-1 CMOS Setup Utility

Award's BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration. The data is stored in a battery-backed RAM so that it will retain the Setup information then the power is turned off.

### Entering Setup

Power on the computer and press <DEL> immediately will allow you to enter Setup.

### 2-1 STANDARD CMOS SETUP

Choose the "STANDARD CMOS SETUP" option from the CMOS SETUP UTILITY Menu (FIG. 2-1) and the below screen is displayed. This standard Setup Menu allow users to configure system

components such as date, time, hard disk drive, floppy drive, display, and memory. Once a field is highlighted, on line help information is displayed in the left bottom of the Menu screen.

**ROM ISA BIOS (2C418000)  
STANDARD CMOS SETUP UTILITY  
AWARD SOFTWARE, INC.**

Date (mm:dd:yy) : Fri, JAN 14 1994									
Time (hh:mm:ss) : 10 : 00 : 00									
<b>CYLS. HEADS PRECOMP LANDZONE SECTORS MODE</b>									
Drive C: USER (128MB)	936 36 65535 611 17 NORMAL								
Drive D: USER (128MB)	936 36 65535 611 17 -----								
Drive A: 1.2M, 5.25 in.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Base</td> <td>Memory : 640K</td> </tr> <tr> <td>Extended</td> <td>Memory : 15360K</td> </tr> <tr> <td>Other</td> <td>Memory : 384K</td> </tr> <tr> <td>Total</td> <td>Memory : 16384K</td> </tr> </table>	Base	Memory : 640K	Extended	Memory : 15360K	Other	Memory : 384K	Total	Memory : 16384K
Base		Memory : 640K							
Extended	Memory : 15360K								
Other	Memory : 384K								
Total	Memory : 16384K								
Drive B: 1.44M, 3.5 in.									
VIDEO : EGA/VGA									
Halt ON: All Errors									
ESC: Quit    ↑↓←→ : Select Item    PUPD/+/-: Modify									
F1: Help    (SHIFT)F2: Change Color									

**Figure 2-2 CMOS Setup Screen**

## 2-2 BIOS FEATURES SETUP

By choosing the "BIOS FEATURES SETUP" options from the CMOS Setup Utility Menu, the screen below is displayed. This sample screen contains the manufacturer's default values for the mainboard.

**ROM ISA BIOS (2C418000)  
 BIOS FEATURES SETUP UTILITY  
 AWARD SOFTWARE, INC.**

Virus Warning	: Disable	Video BIOS Shadow	: Enable
CPU Internal Cache	: Enable	C8000-CFFFF Shadow	: Disable
External Cache	: Enable	D0000-D7FFF Shadow	: Disable
Quick Power On Self Test	: Disable	D8000-DFFFF Shadow	: Disable
Boot Sequence	: A,C		
Swap Floppy Drive	: Disable		
Boot Up Floppy Seek	: Enable		
Boot Up NumLockStatus	: On		
Boot Up System Speed	: High		
IDE HDD Block Mode	: Disable		
Gate A20 Option	: Normal		
Typematic Rate Setting	: Disable	ESC : Quit	↑↓←→ : Select Item
Typematic Rate(Chars/SEC):	6	F1 : Help	PU/PD/+/-: Modify
Typematic Delay(MSec)	: 250	F5 : Old Value (SHIFT)	F2: Color
Security Option	: Setup	F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

**Figure 2-3 BIOS Features Setup**

**NOTE.** Security option: SETUP => Password setting for CMOS setup only: SYSTEM=> Password setting for CMOS setup and system booting.

### **2-3 CHIPSET FEATURE SETUP**

By choosing the "CHIPSETUP FEATURE SETUP" option from the CMOS Setup Utility Menu, the screen below is displayed. This sample screen contains the manufacturer's default values for the mainboard.

**ROM ISA BIOS (2C4I8000)  
CHIPSET SETUP UTILITY  
AWARD SOFTWARE, INC.**

<b>Auto Configuration</b> : Disable	<b>Fast Reset Latency</b> : 2us
<b>AT Bus Clock</b> : 7.159Mhz	<b>Latch Local Bus</b> : T2
<b>MA Drvie Capacity</b> : 24 MA	<b>Local Bus Ready</b> : Transparent
<b>DRAM Speed</b> : Faster	<b>Memory Hole Size</b> : None
<b>DRAM Write WS</b> : 1WS	<b>DMA Clock Select</b> : 4 Mhz
<b>DRAM Write CAS</b> : 2T	<b>Memory Relocation</b> : Enable
<b>DRAM Write Burst</b> : Disable	
<b>Slow Refresh</b> : Disable	
<b>Hidden Refresh</b> : Enable	
<b>External Cache WB/WT</b> : Write Back	<b>ESC</b> : Quit    ↑↓←→ :Select Item
<b>Cache Burst Read</b> : 2T	<b>F1</b> : Help    PU/PD/+/-:Modify
<b>Cache Write Cycle</b> : 3T	<b>F5</b> : Old Value (SHIFT)F2:Color
<b>System Shadow</b> : Cachable	<b>F6</b> : Load BIOS Defaults
<b>Video Shadow</b> : Cachable	<b>F7</b> : Load Setup Defaults
<b>Fast Reset Emulation</b> : Enable	

**Figure 2-4 Chipset Features Setup**

**NOTE1:** When chose the "AUTO configuration: Enabled". This BIOS automatically detects the CPU speed. It will auto-configure the bus frequency, DRAM speed, cache read/write cycle.

## **2-4 POWER MANGEMENT SETUP**

By "POWER MANAGEMENT SETUP" option from the CMOS SETUP UTILITY Menu, one of this two screen below will be displayed. This sample screen contains the manufacturer's default values for the mainboard.



**ROM ISA BIOS (2C418000)  
POWER MANAGEMENT SETUP  
AWARD SOFTWARE, INC.**

<p>Power Management : Min. Saving          Break Switch : RC Pin          PM Control by APM: Yes          Video Off Method : V/H Sync + Blank          Video Off Option : Susp, Stby → off          IRQ 12/15 FOR PM : IRQ15</p> <p><b>** PM Timer **</b>          HDD Power Down : Disable          System Doze : 3 Hr.          System Standby : 3 Hr.          System Suspend : 3 Hr.</p> <p><b>** PM Events **</b>          Local Master : Disable          Local Device : Disable          Video Activities : Disable          DMA Activities : Enable          IRQ1(Keyboard) : Enable          IRQ3(COM2) : Enable</p>	<p>IRQ4(COM1) : Enable          IRQ5 (LPT or LAN) : Enable          IRQ6 (Floppy Disk) : Enable          IRQ7 (LPT or LAN) : Enable          IRQ8 (RTC, OS2) : Disable          IRQ9 (Reserved) : Enable          IRQ10(Reserved) : Enable          IRQ11(Reserved) : Enable          IRQ12(PS2 Mouse): Enable          IRQ13(387) : Enable          IRQ14(Hard Disk) : Enable          IRQ15(Reserved) : Enable</p> <hr/> <p>ESC : Quit    ↑↓←→ :Select Item          F1 : Help    PU/PD/+/-:Modify          F5 : Old Value (SHIFT)F2:Color          F6 : Load BIOS Defaults          F7 : Load Setup Defaults</p>
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**Figure 2-5 Power Management Setup**

The description of the Power Management Setup.

- A. Selecting Power Management Mode:**
- a. Disabled : The system will operate in Normal conditions (Non-Green). The Power Management Function will not be funtion.
  - b. Max.saving : This Mode can auto set power down time-out value to maximum power consumption.
  - c. Min. saving : This mode can auto set power down time-out value to power consumption.

**d. User define :** Users can define their own proper power down time-out value.

**B. Select time out timing base on what you like**

**a. HDD Power Down Timer :**

When "Power Management" parameter be set in user defined mode, this HDD power down timer can be set from 1 minutes to 15 minutes.

**b. System Doze Timer:**

The setting rule of this timer is as the same as the first timer, but the setting margin is from 10 seconds to 10 minutes.

**c. System Standby Timer:**

The setting rule and the setting margin of this timer are as the same as the second timer. This timer start to count when system Doze timer time-out and no "PM Events" happened.

**d. System Suspend Timer:**

This function can only be used when INTEL SL-Enhanced CPU can be used. The setting rule and the setting margin of this timer are as the same as the second timer. This timer start to count when system standby timer time-out and no "PM events" happened.

**C. Describe in Green Function**

This board can support "HDD Power Down Mode, Doze Mode and Standby Mode Green functions based on Non-INTEL 486 CPU and INTEL Non SL-Enhanced CPU; also can support "Suspend

**Mode" by Inter SL-Enhanced CPU. Following are function description in 4 power down mode.**

**a. HDD Power Down Mode:** This mode is independent operation. When system stop reading or writing HDD, the timer start to count. After time out, the system will cut off the HDD power and it will not resume until the read or write HDD command be executed again.

**b. Doze Mode:** After the system doze timer time out, the system will enter the Doze Mode and the chipset will drop down the CPU clock from normal working speed to 8 MHz.

**c. Standby Mode:** After the system standby timer time out, the system will enter the standby mode and the CPU keep on remain in 8 MHz working speed, at the same time if you can use INTEL SL-Enhanced CPU, the screen of the monitor will be blank.

**d. Suspend Mode:** After the system suspend timer time-out, the system will enter the suspend mode and the chipset will stop CPU clock. The power consumption in Suspend Mode will lower than standby mode. The screen of monitor keep on remain in blank condition. (Support SL-Enhanced CPU only)

**D.PM events:**

**AWARD BIOS supports 17 PM Events to be reference by tripple power management mode (Doze, Standby and suspend). You can set any of the PM Events to be "Enable". When system detect that the all events which have been enabled don't work any longer, it will start the system Doze timer first if the "Power**

**Management" isn't in "Disabled" condition. Once the system Doze timer time out, the system will implement doze power saving activity and start the system standby timer. After the standby timer time out and there is no any event happened again, the system will enter the standby mode, not only implement the standby power saving activity but also start the system suspend timer. After timer time out, implement suspend power saving activity and the system will remain in suspend mode until any of the event that has been mark "Enable" happened.**

## **2-5 LOAD SETUP DEFAULT**

**"LOAD SETUP DEFAULT" loads the default system values directly from ROM. If the stored record created by the Setup program becomes corrupted ( and therefore unusable), there defaults will load automatically when you turn the computer on.**

ROM ISA BIOS (2C418000)  
CMOS SETUP UTILITY  
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP	PASSWORD SETTING
BIOS FEATURES SETUP	IDE HDD AUTO DETECTION
CHIPSET FEATURES SETUP	SAVE & EXIT SETUP
POWER MANAGEMENT SETUP	EXIT WITHOUT SAVING
LOAD BIOS DEFAULTS	LOAD SETUP DEFAULT (Y/N)? Y
LOAD SETUP DEFAULTS	

ESC : Quit          ↑↓←→ : Select Item  
F10 : Save & Exit Setup    (SHIFT)F2 : Change Color  
Time, Date, Hard Disk Type...

Figure 2-6 Load Setup Defaults Screen

## 2-6 CHANGE PASSWORD

To change the password, choose the "PASSWORD SETTING" option from the Setup main menu and press [ENTER].

Please note, You must first select the "Security Option" either "Setup", or "System" in the BIOS FEATURES SETUP ( Please refer to Figure 2-3).

1.If the CMOS is bad or this option has never been used, there is default password which is stored in the ROM. The screen will display the following message:

Enter Password:

2. If the CMOS is good or this option has been used to change the default password, the user is asked for the password stored in the CMOS. The

screen will display the following message:

**Confirm Password**

3. After pressing the [ENTER] key (ROM password) or current password (user-defined password), you can change the password stored in the CMOS. The password can be at most 8 characters long.

## 2-7 AUTO DETECT HARD DISK

"IDE HDD AUTO DETECTION" This utility can AUTO-DETECT IDE HARD DISK TYPE, when you unknow the Hard Disk Type. You can use this utility, the utility can help you self-detect corrcet Hard Disk Type.

ROM ISA BIOS(2C4I8000)

CMOS SETUP UTILITY

AWARD SOFTWARE, INC.

	CYLS.	HEADS	PRECOMP	LANDZONE	SECTORS	MODE
Drive C: (116MB)	932	15	65535	931	17	NORMAL
Drive D: ( MB)						

*Do you accept this drive D (Y/N)? Y*

Figure 2-7 IDE HDD Auto Detection Screen

## 2-8 SAVE & EXIT SETUP

"SAVE & EXIT SETUP". If you select this and press the [ENTER] key, the values entered in the setup utilites will be recorded in the CMOS memory of the chipset. The microprocessor will check and compare the data when you turn on the system.

## **2-9 EXIT WITHOUT SAVING**

**"EXIT WITHOUT SAVING"** Selecting this option and pressing the [ENTER] key lets you exit the Setup program without recording any new values or changing old ones.

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