



NOTICE TO END USERS

This User's Guide & Technical Reference is for assisting system manufacturers and end users in setting up and installing the mainboard.

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Chapter 1

INTRODUCTION

FEATURES

CPU

1. Supports Intel Celeron CPUs at 233 ~ 533MHz.
2. Motherboard uses SOCKET 370 slot.
3. Supports CPU voltage auto detect circuit.
4. Supports 66/100MHz Bus Clock with auto detect(BIOS provides 75/83/103/124/133/140/150MHz Bus Clock without auto detect).

Chipset

1. VIA 693 Chipset.
2. PCI Rev 2.1, APM 1.1/1.2 compliant.
3. Supports 66/100/133MHz, 3.3V AGP(Accelerated Graphics Port) slot.

L2 Cache

- Celeron supports 128K write back cache with Pipelined Burst SRAMs.

Main Memory

1. Memory range from 8MB to 768MB(SDRAM) with DRAM Table Free configurations.
2. Supports SDRAM with 12/10/8/6ns speed.
3. Supports 3pcs 168pin DIMM sockets(3.3V Unbuffered and 4 clock type).
4. DRAM supports ECC or Parity function.
5. Supports PC-133 spec.

BIOS

1. AWARD Plug and Play BIOS.
2. Supports ACPI and legacy APM.
3. Flash Memory for easy upgrade.

Sound Chip(only for 65FV-S)

1. Integrated ESS SOLO1 sound controller compatible with:
 - Sound Blaster Pro
 - AdLib
 - Microsoft Windows Sound System
 - MPU-401 MIDI interface
2. Microsoft PC-97 compliant.
3. Built-In QSound QXpander 3D Sound Enhancement Processor.
4. Built-In high-quality 22 voice, 52 operator, music synthesizer with enhanced bass.

5. Built-In 7-channel mixer: five stereo, two mono.
6. Built-In 16-bit sigma delta stereo codec.
7. ISA Plug and Play Specification 1.0a compatible:
 - Sound Blaster Pro, Windows Sound System, FM synthesis.
8. Full duplex operation: record and playback simultaneously using two 8 or 16-bit DMA channels.
9. Supports IMA ADPCM, μ -law decompression.
10. 8 or 16-bit stereo sound data up to 48KHz stereo.
11. Supports 16-bit Type FDMA playback, accelerates telephony-audio applications.
12. Digital joystick interface support, improves responsiveness.(Microsoft Side Winder)
13. DirectSound interface support.

Super I/O Function

1. Integrated USB(Universal Serial Bus) controller with 2USB ports.
2. Supports 2IDE channels with 4IDE devices.(including ZIP/LS-120 devices)
3. Provides PCI IDE Bus Master function and supports Ultra ATA33 function.
4. One floppy port.
5. Two high speed 16550 FIFO UART ports.
6. One parallel port with EPP/ECP/SPP capabilities.
7. PS/2 mouse connector.
8. Infrared module connector.

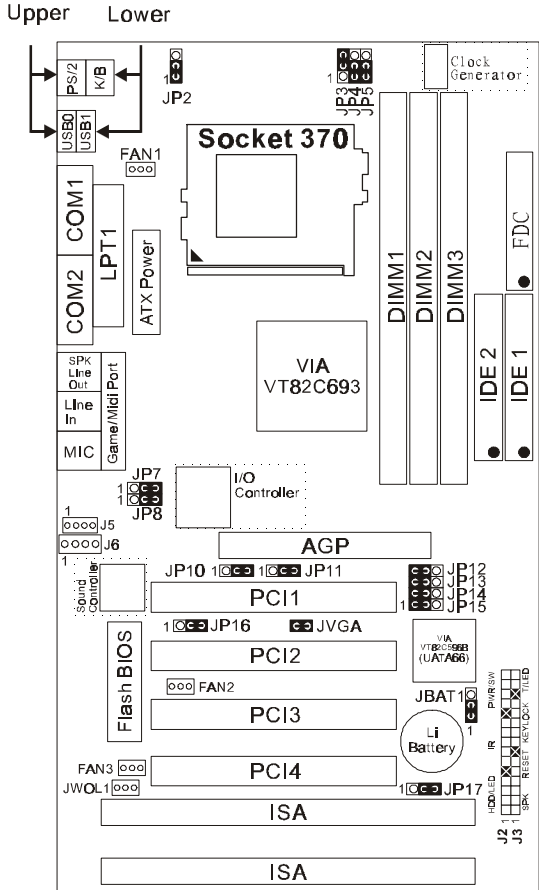
Other Functions

1. ATX size 17cm x 30.5cm.
2. 4 PCI Master slots, 2 ISA slots and 1 AGP slot.
3. Supports Wake On LAN(WOL)function.
4. Supports SCSI CD-ROM boot up function.
5. Supports jumperless setting.
6. Supports 66/75/83MHz Bus Clock(from BIOS).
7. Supports Power Lost Recovery function.

- Note: 1. Make sure that the SDRAM module not only has to be 168pin DIMM but designed for 3.3V unbuffered SDRAM as well. Double check with the SDRAM supplier before install any SDRAMs. The mainboard manufacturer has no obligation to any damage of the board by using the incorrect specification of SDRAM.***
- 2. For 100MHz CPU encironment, the SDRAM must compliant PC-100MHz specification, otherwise, the system maybe unstable.***
- 3. For support WOL, the ATX power supply has to have at least 5V/720mA standby current.***

Mainboard Layout with Default Settings

The default setting of the following figure is for the Intel Celeron 300/66MHz.



Motherboard layout





























Chapter 2

HARDWARE SETUP

There are two ways to set the CPU type and both ways are controlled by JP12, JP13, JP14 and JP15:

1. Use jumpers(hardware): JP12 ~ JP15 must be set.
2. Use BIOS(jumperless): JP12 ~ JP15 must be all shorted at pin 1-2. Refer to “CPU SPEED SETTING” section for detail description.

CPU Type Jumper Configuration

<i>CPU Type</i>	<i>JP12 ~ JP15</i>	<i>Bus Ratio</i>
Celeron 370-300/66	JP12  JP13  JP14  JP15  <small>1 3</small>	4.5x
Celeron 370-333/66	JP12  JP13  JP14  JP15  <small>1 3</small>	5.0x
Celeron 370-366/66	JP12  JP13  JP14  JP15  <small>1 3</small>	5.5x
Celeron 370-400/66	JP12  JP13  JP14  JP15  <small>1 3</small>	6.0x
Celeron 370-433/66	JP12  JP13  JP14  JP15  <small>1 3</small>	6.5x
Celeron 370-466/66	JP12  JP13  JP14  JP15  <small>1 3</small>	7.0x
Celeron 370-500/66	JP12  JP13  JP14  JP15  <small>1 3</small>	7.5x

<p>Celeron 370-533/66</p>	<p>JP12 ○ ○ ○ JP13 ○ ● ● JP14 ○ ● ● JP15 ○ ○ ○</p> <p style="text-align: center;">1 3</p>	<p>8.0x</p>
----------------------------------	---	--------------------

System Memory Configuration



This VIA 693 Apollo Pro-Plus motherboard supports 168 pin DIMM of 8MB, 16MB, 32MB, 64MB, 128MB or 256MB to form a memory size between 8MB to 768MB (SDRAM). VIA 693 Apollo Pro-Plus chipsets provide “ Table Free ” function. It means that users can install DRAM with any configuration and in any bank, and that is why the DRAM table is not needed but do remember that the DRAM must be 3.3V type.

Jumper Settings

■ FAN#: Onboard FAN(12V) Connector










FAN#	Function
FAN1	CPU FAN
FAN2	Power FAN
FAN3	Chasis FAN

■ JP2: Keyboard Power Select





Keyboard Power On	JP2
Disabled(default)	
Enabled	

- NOTE:**
1. If the JP2 is fixed by jumperwire then the board does not support keyboard power on function.
 2. When the keyboard power on function shows any compatible problem, choose Disabled and report the keyboard model to the vender/maker.
 3. Keyboard power on function must be set from the BIOS. Refer to the "Integrated Peripherals" section in the Chapter 3.





■ JP3 / JP4 / JP5: CPU Host Clock Select

CPU Host Clock	JP3 / JP4 / JP5
66MHz(default)	JP3  JP4  JP5 
100MHz	JP3  JP4  JP5 
100MHz(overclock)	JP3  JP4  JP5 

■ **JP7/JP8: Sound Amplifier Control(Speak/Line Out)**



<i>Sound Amplifier</i>	<i>JP7/JP8</i>
Speaker out(w/i amplifier) (default)	JP7  JP8 
Line out(w/o amplifier)	JP7  JP8 

■ **JP10 / JP11: USB Port Select**

<i>USB Port</i>	<i>JP10 / JP11</i>
Redirect all USB ports to USB connector(default)	JP10  JP11 
Redirect USB1 to AGP port	JP10  JP11 



■ **JP16: Onboard Sound Chip Enabled / Disabled**

This jumper allows user to control onboard sound chip function.

<i>Sound Chip</i>	<i>JP16</i>
Disabled	
Enabled(default)	

■ **JP17: Power Lost Resume**



This jumper allows you to use the switch of ATX power supply to control ON/OFF switch directly instead of using the power switch on the motherboard.

<i>Power Lost Resume</i>	<i>JP17</i>
Enabled	1  3
Normal (Default)	1  3


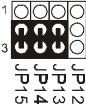
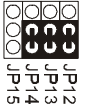

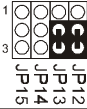
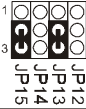

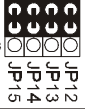
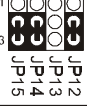
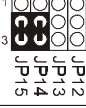
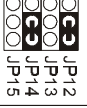


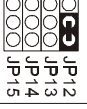
NOTE: THIS JUMPER MUST WORK WITH BIOS.

■ **JVGA1: Special PCI VGA card**



This jumper is set for the special PCI VGA card only. Open this jumper when the system isn't able to boot up. If you use AGP card, it is important to set default with JVGA1.

	JVGA1
For Special PCI VGA card	
Normal(default)	

■ **JP12 / JP13 / JP14 / JP15: Bus Ratio Select**

Bus Ratio	JP12 to JP15	Bus Ratio	JP12 to JP15	Bus Ratio	JP12 to JP15	Bus Ratio	JP12 to JP15
2.0x		4.0x		6.0x		8.0x	
2.5x		4.5x		6.5x		By BIOS (default)	
3.0x		5.0x		7.0x			
3.5x		5.5x		7.5x			

■ **JBAT1: Clear CMOS Data**

CMOS Status	JBAT1
Clear CMOS	
Retain Data(default)	

■ **JWOL1: Wake On LAN(WOL) Connector**

This connector is designed to use LAN to boot up the system. Connect the wake on signal from LAN card to this connector.

For support WOL, the ATX power supply has to have at least 5V/720mA standby current.

- **J5 / J6: CD-ROM Audio Connector**
- **Game / Midi Port**
- **MIC: Microphone Jack**
- **Line In: Audio In Jack**
- **Line Out / Speaker Out: Audio Out Jack**

J2 Switch Signal Summary

J2	Pin	Signal Description
HDD LED Connector	1	+5V
	2	HDD LED Signal
	3	HDD LED Signal
	4	+5V
N.C.	5	No Connection
Infrared Connector	6	Infrared Transmit Signal
	7	GND
	8	Infrared Receive Signal (low speed)
	9	Infrared Receive Signal (high speed)
	10	+5V
N.C.	11	No Connection
PWR	12	5V Standby
	13	ATX Power Switch
SUSPEND Connector	14	SUSPEND Signal
	15	GND

IDE LED Activity Light (J2 pin1-4)

This connector connects to the hard disk activity indicator light on the case.

Infrared Port Module Connector (J2 pin6-10)

The system board provides a 5-pin infrared connector-R1 for an optional

wireless transmitting and receiving module. Pin 6 through 10 are Transmit, GND, Receive (low speed), Receive (high speed), and Vcc, respectively.

Power Switch (J2 pin12, pin13)

Power Switch: Toggle this pin for turning on/off of the Power supply (for ATX power only).

SUSPEND Connector(J2 pin 14, pin15)

J3 Switch Signal Summary

J3	Pin	Signal Description
Speaker Connector	1	Speaker Signal
	2	No Connection
	3	GND
	4	+5V
Reset Switch	5	Reset Signal
	6	GND
N.C.	7	No Connection
Power LED Connector	8	+5V
	9	No Connection
	10	GND
Keylock Connector	11	Keylock Signal
	12	GND
N.C.	13	No Connection
TURBO LED	14	TURBO LED
	15	GND

Speaker Connector (J3 pin1-4)

The speaker connector is a 4-pin connector for connecting the system and the speaker. (See the following drawing for jumper position.)

Reset Switch (J3 pin5, 6)

The system board has a 2-pin connector for rebooting your computer without having to turn off your power switch. This prolongs the life of the system's power supply.

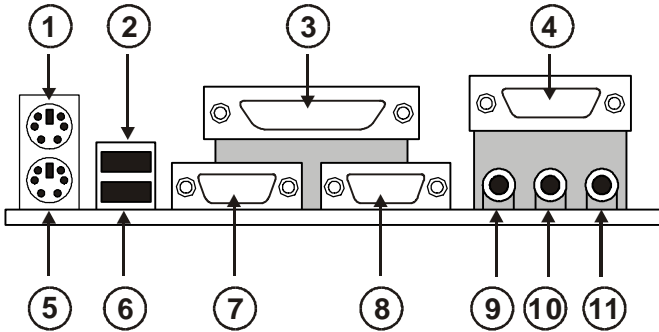
Power LED and Keylock Switch (J3 pin8-12)

The keylock switch is a 5-pin connector for locking the keyboard for security purposes. (See the following drawing for jumper position, and pin1~3 is connected to power LED and pin 4~5 is connected to keylock switch.)

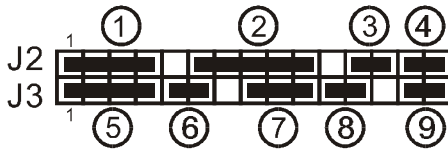
TURBO LED (J3 pin14, 15)

Connected to TURBO LED.

Other connectors



- | | |
|-------------------|--------------------|
| ① : PS/2 MOUSE | ② : USB0 |
| ③ : LPT1 | ④ : GAME/MIDI PORT |
| ⑤ : PS/2 KEYBOARD | ⑥ : USB1 |
| ⑦ : COM1 | ⑧ : COM2 |
| ⑨ : SPK/LINE OUT | ⑩ : LINE IN |
| ⑪ : MIC | |



- | | |
|------------------|-----------------------|
| ① : HDD LED | ② : INFRARED (IR) |
| ③ : POWER SWITCH | ④ : SUSPEND CONNECTOR |
| ⑤ : SPEAKER | ⑥ : RESET SWITCH |
| ⑦ : POWER LED | ⑧ : KEYLOCK |
| ⑨ : TURBO LED | |

Flash Memory: BIOS Update

1. Download BIOS files and flash utility from your board vendor. The files are **awdf_{lash}.exe** and ***.bin** file.
2. Copy them to bootable diskette and boot from the diskette. The diskette does not include memory manager e.g. **emm386.exe**, **qemm** or **himem.sys** file.
3. Type "**awdf_{lash} filename (XXXX.bin)**".
4. Next screen will ask you save current BIOS to file or not? Depends on your diskette capacity, choose **Y** or **N** for this option.
5. Then screen asks you programming the flash memory now? Type **Y** for this option.
6. Programming finished, utility will ask you to reboot system.
7. Reset system and press **DEL** key enter BIOS setup screen.
8. Select "**LOAD BIOS DEFAULTS**", press **ENTER**, press **Y**, press **F10**, press **Y**. Finish update process.

Onboard ESS Solo-1 PCI Sound Chip Driver Installation

For Windows95/Windows98

1. Go to CD-ROM directory, we suggest that's D:
2. Find and run D:\driver\audio\ess solo1\win9x\setup.exe
3. Reboot the system after the installation is finished

For Windows NT4.0

1. Go to CD-ROM directory, we suggest that's D:
2. Find and run D:\driver\audio\ess solo1\Nt40\setup.exe
3. Reboot the system after the installation is finished

- **IF USER'S HARD DISK SUPPORTS Ultra ATA/66, THEN USER MUST SELECT THE SPECIFIC CABLE FOR THE BEST TRANSMISSION TO Ultra ATA/66!**

Chapter 3

BIOS SETUP

This 693 Apollo motherboard comes with the AWARD BIOS from AWARD Software Inc. Enter the Award BIOS program Main Menu by:

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

PRESS TO ENTER SETUP

2. Press the key and the main program screen will appear as follows.

ROM PCI/ISA BIOS
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 SETUP DEFAULTS	SAVE & EXIT SETUP
	EXIT WITHOUT SAVING
Esc : Quit	i ␣ ␣ † ␣:Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Time, Date, Hard Disk Type...	

3. Using the arrows on your keyboard, select an option, and press <Enter>. Modify the system parameters to reflect the options installed in your system.
4. You may return to the Main Menu anytime by pressing <ESC> .
5. In the Main Menu, "SAVE AND EXIT SETUP" saves your changes and reboots the system, and "EXIT WITHOUT SAVING" ignores your changes and exits the program.

Standard CMOS Setup

Standard CMOS Setup allows you to record some basic system hardware configuration and set the system clock and error handling. You only need to modify the configuration values of this option when you change your system hardware configuration or the configuration stored in the CMOS memory gets lost or damaged.

Run the Standard CMOS Setup as follows:

1. Choose "STANDARD CMOS SETUP" from the Main Menu and a screen with a list of options will appear.

ROM PCI/ISA BIOS STANDARD CMOS SETUP AWARD SOFTWARE, INC.							
Date (mm:dd:yy) : Thu, May 9 1996							
Time (hh:mm:ss) : 15 : 45 : 10							
HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR MODE
Primary Master	: Auto	0	0	0	0	0	0 Auto
Primary Slave	: Auto	0	0	0	0	0	0 Auto
Secondary Master	: Auto	0	0	0	0	0	0 Auto
Secondary Slave	: Auto	0	0	0	0	0	0 Auto
Drive A: 1.44M, 3.5 in.							
Drive B: None							
					Base Memory: 640K		
					Extended Memory: 15360K		
					Other Memory: 384K		
					Total Memory: 16384K		
Video : EGA/VGA							
Halt On : All Errors							
Esc : Quit		↑ ↓ → ← ;		Select Item		PU/PD/+/- : Modify	
F1 : Help		(Shift) F2 : Change Color					

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

A short description of the screen options is as follows:

Date (mm:dd:yy) Set the current date and time.
Time (hh:mm:ss)

**Primary
(Secondary)
Master/Slave** This field records the specifications for all non-SCSI hard disk drives installed in your system. Refer to the respective documentation on how to install the drives.

Drive A/B Set this field to the type(s) of floppy disk drive(s) installed in your system. The choices are:
360KB, 5.25 in.,
1.2MB, 5.25 in.,
720KB, 3.5 in.,
1.44M, 3.5 in. (default),
2.88MB, 3.5 in., or None

Video Set this field to the type of video display card installed in the system. The choices are: Monochrome; Color 40x25; VGA/EGA (default); or Color 80x25

Halt On Set this warning feature for the type of errors that will cause the system to halt. The choices are: All Errors (default); No Errors; All, But Keyboard; All, But Diskette; or All, But Disk/Key

3. Press <ESC> to return to the Main Menu when you finish setting up the “Standard CMOS Setup”

BIOS Features Setup

BIOS Features Setup allows you to improve your system performance or set up system features according to your preference.

Run the BIOS Features Setup as follows:

1. Choose “BIOS FEATURES SETUP” from the Main Menu and a screen with a list of options will appear.

ROM PCI/ISA BIOS
 BIOS FEATURES SETUP
 AWARD SOFTWARE, INC.

Virus Warning	: Disabled	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	: Enabled	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	: Disabled		
Boot Up NumLock Status	: On		
IDE HDD Block MODE	: Enabled		
Gate A20 Option	: Fast		
Memory Parity/ECC Check	: Disabled	ESC :Quit	i ⏪ ⏩ Select Item
Typematic Rate Setting	: Disabled	F1 :Help	PU/PD/+/-: Modify
Typematic Rate (Chars/Sec)	: 6	F5 :Old Values(Shift)	F2 : Color
Typematic Delay (Msec)	: 250	F6 :Load BIOS Defaults	
Security Option	: Setup	F7 :Load Setup Defaults	
PCI/VGA Palette Snoop	: Disabled		
OS Select for DRAMs>64MB	: Non-OS/2		

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys. An explanation of the <F> keys follows:

<F1>: “Help” gives options available for each item.

Shift <F2>: Change color.

<F5>: Get the previous values. These values are the values with which the user started in the current session.

<F6>: Load all options with the BIOS default values.

<F7>: Load all options with the Setup default values.

A short description of screen options follows:

- Virus Warning** Enabled: Activates automatically when the system boots up causing a warning message to appear if there is anything attempting to access the boot sector or hard disk partition table.
- Disabled: No warning message will appear when there is something attempting to access the boot sector or hard disk partition table
- Note: Many diagnostic (or boot manager) programs which attempt to access the boot sector table can cause the above warning message. If you will be running such a program, we recommend that you disable the virus protection first.***
-
- CPU Internal Cache** Choose Enabled (default) or Disabled. This option allows you to enable or disable the CPU's internal cache.
-
- External Cache** Choose Enabled (default) or Disabled. This option allows you to enable or disable the external cache memory.
-
- CPU L2 Cache
ECC Checking** Use default setting.

Quick Power On Self Test	Choose Enabled (default) or Disabled. This option allows you to speed up the Power-On Self-Test routine.
Boot Sequence	Default is “A, C, SCSI” This option determines which drive to look at first for an operating system.
Swap Floppy Drive	Choose Enabled or Disabled (default). This option swaps floppy drive assignments when it is enabled.
Boot Up Floppy Seek	Enabled (default): During POST, BIOS checks the track number of the floppy disk drive to see whether it is 40 or 80 tracks. Disabled: During POST, BIOS will not check the track number of the floppy disk drive.
Boot Up NumLock Status	Choose On (default) or Off. This option lets user activate the NumLock function at boot-up.
IDE HDD Block Mode	Choose Enabled (default) or Disabled. If your hard disk size is larger than 540MB, choose Enabled, and, if you are using the IDE HDD Auto Detection option, the BIOS will choose this option automatically. <i>Note: Some older model HDDs don't provide this feature.</i>
Gate A20 Option	Choose Normal or Fast (default). This option allows the RAM to access the memory above 1MB by using the fast gate A20 line.

Memory Parity /ECC Check	Choose Enabled or Disabled
Typematic Rate Setting	Choose Enabled or Disabled (default). Enable this option to adjust the keystroke repeat rate.
Typematic Rate (Chars/Sec)	Range between 6 (default) and 30 characters per second. This option controls the speed of repeating keystrokes.
Typematic Delay (Msec)	Choose 250 (default), 500, 750, and 1000. This option sets the time interval for displaying the first and the second characters.
Security Option	Choose System or Setup (default). This option prevents unauthorized system boot-up or use of BIOS Setup.
PCI/VGA palette Snoop	Choose Enabled or Disabled (default). It determines whether or not the MPEG ISA cards can work with PCI/VGA.
OS Select for DRAM > 64MB	Non-OS2 (default): For Non-OS/2 system. OS: For OS/2 system.
Video BIOS Shadow	Enabled (default): Map the VGA BIOS to system RAM. Disabled: Will not map the VGA BIOS to system RAM.

C8000-CBFFF to These options are used to shadow
DC000-DFFF other expansion card ROMs.
Shadow

3. Press <ESC> and follow the screen instructions to save or disregard your settings.

Chipset Features Setup

Chipset Features Setup changes the values of the chipset registers. These registers control the system options.

Run the Chipset Features Setup as follows:

1. Choose “CHIPSET FEATURES SETUP” from the Main Menu and a screen with a list of options will appear.

```
ROM PCI/ISA BIOS
CHIPSET FEATURES SETUP
AWARD SOFTWARE, INC.
```

Bank 0/1 DRAM Timing	: SDRAM 10ns	
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	
Read Around write	: Disabled	
Concurrent PCI/Host	: Disabled	
System BIOS Cacheable	: Disabled	
Video RAM Cacheable	: Disabled	
AGP Aperture Size	: 64M	
AGP-2X Mode	: Enabled	
OnChip USB	: Enabled	
		ESC: Quit ↑ ↓ → ←: Select Item
		F1 : Help PU/PD/+/-: Modify
		F5 : Old Values (Shift) F2 : Color
		F6 : Load BIOS Defaults
		F7 : Load Setup Defaults

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

A short description of screen options follows:

Bank 0/1 2/3 4/5

DRAM Timing

This item allows you to select the value in this field, depending on whether the board has paged DRAMs or EDO (extended data output) DRAMs. The Choice: EDO 50ns, EDO 60ns, Slow, Medium, Fast, Turbo.

SDRAM Cycle Length Time

You can select CAS latency time in HCLKs of 2/2 or 3/3. The system board designer should have set the values in this

field, depending on the DRAM installed. Do not change the values in this field unless you change specifications of the installed DRAM or the installed CPU.

DRAM Clock

Use default setting.

Memory Hole

Choose Enabled or Disabled(default). In order to improve performance, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory's space below 16MB.

Read Around Write

DRAM optimization feature: If a memory read is addressed to a location whose latest write is being held in a buffer before being written to memory, the read is satisfied through the buffer contents, and the read is not sent to the DRAM
The Choice: Enabled, Disabled.

**Concurrent
PCI/HOST**

When disabled, CPU bus will be occupied during the entire PCI operation period.
The Choice: Enabled, Disabled

**System BIOS
Cacheable**

Choose Enabled or Disabled (default). When Enabled, the access to the system BIOS ROM addressed at F0000H-FFFFFFH is cached.

**Video RAM
Cacheable**

Choose Enabled or Disabled (default). When Enabled, the access

to the VGA RAM addressed is cached.

AGP Aperture Size (MB) Choose 4 , 8, 16, 32, 64 (default), 128, or 256 MB. Memory mapped and graphics data structures can reside in a Graphics Aperture. This area is like a linear buffer. BIOS will automatically report the starting address of this buffer to the O.S.

AGP-2X Mode this item allows you to enable / disable the AGP-2X (Clock 133MHz) Mode.

OnChip USB This should be enabled if your system has a USB installed on the system board and you wish to use it. Even when so equipped, if you add a higher performance controller, you will need to disable this feature. The choice: Enabled, Disabled.

3. Press <ESC> and follow the screen instructions to save or disregard your settings.

Power Management Setup

Power Management Setup sets the system's power saving functions.

1. Choose "POWER MANAGEMENT SETUP" from the Main Menu and a screen with a list of options will appear.

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

ACPI Function	:Disabled	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 (LPT 1)	: Primary
Soft-Off by PWRBTN	:Instant-Off	IRQ8 (RTC Alarm)	: Disabled
HDD Power Down	:Disabled	IRQ9 (IRQ2 Redir)	: Secondary
Doze Mode	:Disabled	IRQ10 (Reserved)	: Secondary
Suspend Mode	:Disabled	IRQ11 (Reserved)	: Secondary
PM Events		IRQ12 (RS/2 Mouse)	: Primary
VGA	:OFF	IRQ13 (Coprocessor)	: Primary
LPT&COM	:LPT/COM	IRQ14 (Hard Disk)	: Primary
HDD&FDD	:ON	IRQ15 (Reserved)	: Disabled
DMA/master	:OFF	ESC : Quit ↑ ↓ → ← : Select Item	
Modem Ring Resume	:Disabled	F1 : Help PU/PD/+/- : Modify	
RTC Alarm Resume	:Enabled	F5 : Old Values (Shift)F2 : Color	
Date(of Month)	: 0	F6 : Load BIOS Defaults	
Timer(hh:mm:ss)	: 0: 0: 0	F7 : Load Setup Defaults	
Wake Up On LAN	: Enabled		

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

A short description of screen options follows:

ACPI Function Enabled: Turn on ACPI Function
 Disabled(default):Turn off ACPI Function

Power Management Choose Max. Saving, User Define (default), Disabled, or Min. Saving.

PM Control by APM Choose Yes (default) or No. You need to choose Yes when the operating system has the APM functions, otherwise choose No.

Video Off Method Choose Blank , DPMS, or V/H Sync+Blank (default). You can choose either DPMS or V/H Sync+Blank when the monitor has the Green function. You need to choose Blank when the monitor has neither the Green function.

Video Off After Choose NA, Suspend, Standby (default), or Doze.

MODEM Use IRQ Assign the IRQ number to the modem which is being used so that the ring signal can wakeup the system. The default setting is 3 (COM2).

Soft-Off by PWR-BTTN Instant-off: (default) turns off the system power at once after pushing the power button.
Delay 4 Sec: turns off the system power 4 seconds after pushing the power button (to meet PC97/98 spec.)

Doze Mode This mode sets the CPU speed down to 33MHz.

**Standby Mode
Suspend Mode**

These two options allow you to choose the mode for the different timers. The Standby Mode turns off the VGA monitor, and the Suspend Mode turns off the CPU and saves the energy of the system.

HDD Power Down

Time is adjustable from 1 to 15 minutes. When the set time has elapsed, the BIOS sends a command to the HDD to power down, which turns off the motor.

**Modem Ring
Resume**

An input signal on the serial Ring Indicator (RI) Line (in other words, An incoming call on the modem) Awakens the system from a soft off state

Wake On LAN

Enabled: Wake up the system from the LAN card (LAN Card must support Wake Up On LAN function and the power supply must provide at least 5V/750ma standby current)

IRQ (#), NMI;

Enabled: (default) The system can not enter the power saving mode when I/O ports or IRQ # is activated

**Primary IDE 0
Primary IDE 1;
Secondary IDE 0
Secondary IDE 1;**

Disabled: The system still can enter the power saving mode when I/O ports or IRQ# is activated.

Floppy Disk;

Serial Port;

Parallel Port

Note: These functions can only be activated when the power management option is Enabled

3. Press <ESC> and follow the screen instructions to save or disregard your settings.

PnP/PCI Configuration Setup

PnP/PCI Configuration Setup configures the PCI bus slots.

Run the Chipset Features Setup as follows:

1. Choose “PnP/PCI CONFIGURATION SETUP” from the Main Menu and a screen with a list of options will appear.

ROM PCI/ISA BIOS
PNP/PCI CONFIGURATION
AWARD SOFTWARE, INC.

PNP OS Installed	: No	CPU to PCI Write Buffer	: Enabled
Resources Controlled By	: Auto	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	AGP Master 1 WS Write	: Enabled
IRQ-7 assigned to	: PCI/ISA PnP	AGP Master 1 WS Read	: Disabled
IRQ-9 assigned to	: PCI/ISA PnP	Assign IRQ For VGA	: Enabled
IRQ-10 assigned to	: PCI/ISA PnP		
IRQ-11 assigned to	: PCI/ISA PnP		
IRQ-12 assigned to	: PCI/ISA PnP		
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	ESC : Quit	i ⏎ ⏪ ⏩ ⏴ ⏵ Select Item
DMA-3 assigned to	: PCI/ISA PnP	F1 : Help	PU/PD/+/- : Modify
DMA-5 assigned to	: PCI/ISA PnP	F5 : Old Values (Shift)	F2 : Color
DMA-6 assigned to	: PCI/ISA PnP	F6 : Load BIOS Defaults	
DMA-7 assigned to	: PCI/ISA PnP	F7 : Load Setup Defaults	

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

A short description of screen options follows:

PNP OS Installed Yes: OS supports Plug and Play function.
No (default): OS doesn't support Plug and Play function.

Note: BIOS will automatically disable all PnP resources except the boot device card when you select Yes on Non-PnP OS..

Resources Controlled By	Choose Manual (default) or Auto. The BIOS checks the IRQ/DMA channel number on the ISA and PCI card manually if you choose Manual and the IRQ/DMA channel number will be checked automatically if you choose Auto.
Reset Configuration Data	Choose Enabled or Disabled (default). Disabled retains PnP configuration data in BIOS and Enabled resets the PnP configuration data in the BIOS.
IRQ-x assigned to DMA-x assigned to	Legacy ISA: Manually assigns IRQ/DMA to device. PCI/ISA PnP: BIOS assigns IRQ/DMA to device automatically.
CPU to PCI Write Buffer	Use default setting.
PCI Dynamic Bursting	Use default setting.
PCI Master O WS Write	Use default setting.
PCI Delay Transaction	Use default setting.
PCI#2 Access #1 Retry	Use default setting.
AGP Master 1 WS Write	Use default setting.
AGP Master 1 WS Read	Use default setting.

Assign IRQ for VGA

Choose Enabled (default) or Disabled.

Enabled: Add one IRQ to VGA controller.

Disabled: Remove IRQ from VGA controller. The system will have extra IRQ for other devices but the VGA controller will still not be disabled (only IRQ will be removed.)

3. Press <ESC> and follow the screen instructions to save or disregard your settings.

Load Setup Defaults

Load Setup Defaults option loads the default system values to the system configuration fields. If the CMOS is corrupted the defaults are loaded automatically.

Choose this option and the following message will appear:

```
"Load Setup Defaults (Y/N)? N"
```

To use the Setup defaults, change the prompt to "Y" and press <Enter>.

CPU SPEED SETTING

ROM PCI/ISA BIOS
CPU FEATURE SETUP
AWARD SOFTWARE, INC.

CPU Ratio	:X2	
Auto Detect DIMM/PCI	:Enabled	
Spread Spectrum	:Disabled	
CPU Host Clock	:Default	
		ESC : Quit ⏪ ⏩ ⏴ ⏵ Select Item
		F1 : Help PU/PD/+/- : Modify
		F5 : Old Values (Shift)F2 : Color
		F6 : Load BIOS Defaults
		F7 : Load Setup Defaults

Press <ESC> and follow the screen instructions to save or disregard your settings.

Integrated Peripherals

Integrated Peripherals option changes the values of the chipset registers. These registers control system options in the computer.

1. Choose “INTEGRATED PERIPHERALS” from the Main Menu and a screen with a list of options will appear.

ROM PCI/ISA BIOS	
INTEGRATED PERIPHERALS	
AWARD SOFTWARE, INC.	
OnChip IDE Channel0	: Enabled
OnChip IDE Channel1	: Enabled
IDE Pretetch 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	: PCI Slot
Power On Function	: ButtonOnly
KBC Input Clock	: 8MHz
Onboard FDC Controller	: Enabled
Onboard Serial Port 1	: 3F8/IRQ4
Onboard Serial Port 2	: 2F8/IRQ3
UART1 Mode Select	: IrDA
UART2 Mode Select	: Half
IR Function Duplex	: Half
TX,RX, inverting enable	: NO,NO
Onboard Parallel Port	: 378/IRQ7
Onboard Parallel Mode	: SPP
ESC : Quit i ⏪ ⏩ ⏴ ⏵ Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift)F2: Color F6 : Load BIOS Defaults F7 : Load Setup Defaults	

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/-keys.

A short description of screen options is as follows:

- | | |
|---|------------------------------------|
| IDE Primary | Choose Auto (default) or Mode 0~4. |
| Master/Slave PIO | The BIOS will detect the HDD Mode |
| IDE Secondary | type automatically when you |
| Master/Slave PIO | choose Auto. You need to set to a |
| | lower mode than Auto when your |
| | hard disk becomes unstable. |
| On-Chip Primary/
Secondary PCI IDE | Enabled: (default)Turn on the |
| | onboard IDE function. |
| | Disabled: Turn off the onboard IDE |
| | function. |

Power On Function	Choose BUTTON ONLY(default), Password, Mouse Left or Mouse Right. Mouse Left: Use the PS/2 mouse left to boot the system. Mouse Right: Use the PS/2 mouse right to boot the system. Password: Choose a special password which is defined by the user or use one of the HOT keys(from CTRL-F1 to CTRL-F12)to boot the system.
KBC Input Clock	Choose 6MHz, 8MHz(default), 12MHz or 16MHz. There might be a compatible problem when is above 8MHz.
Onboard FDC Controller	Choose Enabled (default) or Disabled. Choose Disabled when you use an ISA card with FDD function, or , choose Enabled to use the onboard FDD connector.
Onboard Serial Port 1	Choose Auto (default), 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, or Disabled. Do no set port 1 & 2 to the same value, except when setting at Disabled.
Onboard Serial Port 2	Choose Auto (default), 3F8/IRQ4 , 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, or Disabled.
IR Function Duplex	Choose Half or Full
Onboard Parallel Port	Choose the printer I/O address: 378H/IRQ7 (default), 3BCH/IRQ7,

278H/IRQ5, Disabled

Onboard Parallel Mode

Choose Normal (default), ECP/EPP, or ECP mode. The mode depends on the external device connected to this port.

ECP Mode Use DMA

Choose DMA3 (default) or DMA1. Most sound cards use DMA1. Check with your sound card configuration to make sure that there is no conflict with this function.

****: This option will not be displayed unless the EPP/ECP function is selected..***

Parallel Port EPP Type

Choose EPP1.7 (default) or EPP1.9. EPP1.9 supports hardware handshake. This setting is dependent upon your EPP device.

Note: The above 2 options will not be displayed unless the EPP/ECP function is selected.

3. Press <ESC> and follow the screen instructions to save or disregard your settings.

Supervisor/User Password

These two options allow you to set your system passwords. Normally, the supervisor has a higher ability to change the CMOS setup option than the user. The way to set up the passwords for both Supervisor and User are as follows:

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

“Enter Password:”

2. The first time you run this option, enter your password up to 8 characters and press <Enter>. The screen does not display the entered characters.
3. After you enter the password, the following message appears prompting you to confirm the password:

“Confirm Password:”

4. Enter the same password “exactly” as you just typed again to confirm the password and press <Enter>.
5. Move the cursor to Save & Exit Setup to save the password.
6. If you need to delete the password you entered before, choose the Supervisor Password and press <Enter>. It will delete the password that you had before.
7. Move the cursor to Save & Exit Setup to save the option you did, otherwise the old password will still be there the next time you turn your machine on.
8. Press <ESC> to exit to the Main Menu.

Note: *If you forget or lose the password, the only way to access the system is to clear the CMOS RAM by setting JBAT1. All setup information will be lost and you need to run the BIOS setup program again.*

IDE HDD Auto Detection

IDE HDD Auto Detection detects the parameters of an IDE hard disk drive and automatically enters them to the Standard CMOS Setup screen.

The screen will ask you to select a specific hard disk for Primary Master after you select this option. If you accept a hard disk detected by the BIOS, you can enter “Y” to confirm and then press <Enter> to check next hard disk. This function allows you to check four hard disks and you may press the <ESC> after the <Enter> to skip this function and go back to the Main Menu.

Save & Exit Setup

Save & Exit Setup allows you to save all modifications you have specified into the CMOS memory. Highlight this option on the Main Menu and the following message appears:

SAVE to CMOS and EXIT (Y/N)? Y

Press <Enter> key to save the configuration changes.

Exit Without Saving

Exit Without Saving allows you to exit the Setup utility without saving the modifications that you have specified. Highlight this option on the Main Menu and the following message appears:

Quit Without Saving (Y/N)? N

You may change the prompt to “Y” and press the <Enter> key to leave this option.