CALIFORNIA™ GRAPHICS & PERIPHERALS, INC.

POWER PRO II AGP
Scheda madre PentiumII ATX

Manuale d'uso
Rev. 2.0

Supporta Intel PentiumII
fino a 333MHz!
Nuovo layout con 5 slot PCI!

Sommario

Introduzione

Grazie per aver acquistato la scheda madre Power Pro II AGP. Questo manuale vuole essere una guida per coloro che sono poco pratici di installazione di periferiche per PC, e costituisce al contempo un utile supporto per gli utenti più esperti. I primi tre capitoli contengono tutte le informazioni necessarie all'installazione ed all'utilizzo di questa scheda madre. Il capitolo 4 è stato redatto in inglese e contiene le informazioni riguardanti i settaggi del Bios. Se si hanno ancora dubbi o quesiti, consultare il proprio rivenditore o la documentazione relativa al computer in uso.

Contenuto della confezione

Controllate che nella scatola ci sia tutto quanto di seguito elencato. In caso contrario, rivolgetevi al vostro fornitore.

- ð **La scheda madre POWER PRO II AGP**
- ð **Questo manuale**
- ð **1 cavo IDE per hard disk/CD-ROM**
- ð **1 cavo per Floppy**

* Si raccomanda di usare solo i cavi forniti, per evitare problemi di compatibilità.

3

Capitolo 1 Specifiche

BIOS

AWARD BIOS Plug and Play. Supporta DMI e Power Management

Processori supportati

Intel Pentium II 233 – 266 – 300 – 333 MHz

Chipset

Intel 82440LX

Memoria principale

Fino a 512MB di memoria RAM
DIMM**:** SDRAM (Synchronous DRAM) o EDO DRAM
da 8M, 16M, 32M, 64M, 128M

Slots di espansione

Cinque slots a 32-bit PCI
Due slots a 16-bit ISA
Uno slot AGP

USB

Due porte Universal Serial Bus

PCI bus e Bus Mastering IDE controller (UDMA)

Due interfacce IDE per collegare fino a quattro unità, supporto del PIO Mode 3/4, DMA Mode 2 e dell'Ultra DMA/33 per Hard Disk IDE/EIDE e CD-ROM ATAPI

Super Multi I/O

W83977TF PnP con due porte seriali UART 16550A, una parallela EPP/ECP, una porta infrarossi IrDA, una porta floppy e tastiera. Connettore Mouse e Tastiera di tipo PS/2
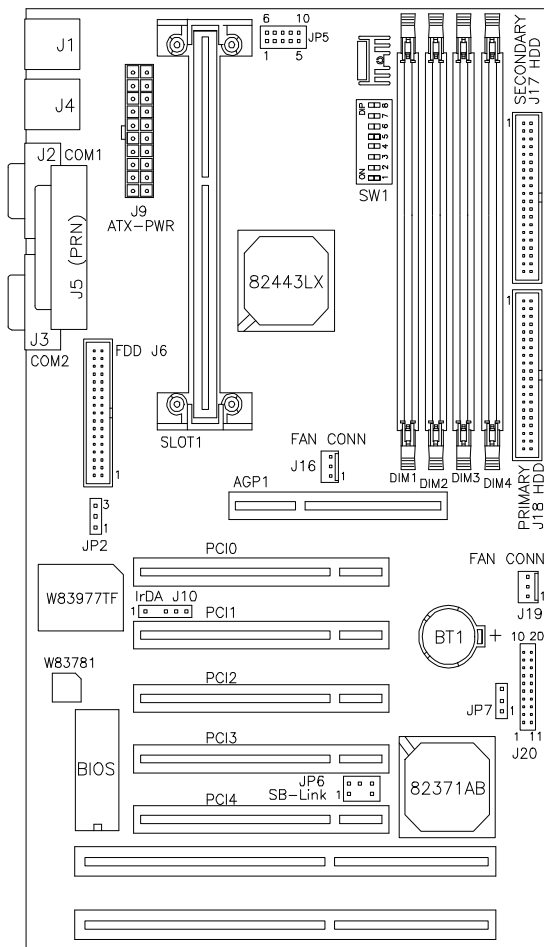
Funzioni speciali

Win95 shut-off e modem ring-on
Regolatore di voltaggio switching - 1.8V ~ 3.5V

Formato

ATX, 30.7 x 17.5 cm

Capitolo 2 – Settaggi

Layout della scheda madre

Memoria

168-pin DIMM (3.3V) SDRAM o EDO DRAM

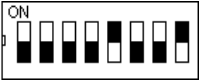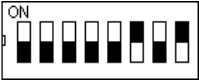| Bank0 (DIMM4)	Bank1 (DIMM3)	Bank2 (DIMM2)	Bank3 (DIMM1)	Totale
8MB	-----	-----	-----	8MB
16MB	-----	-----	-----	16MB
32MB	-----	-----	-----	32MB
64MB	-----	-----	-----	64MB
128MB	-----	-----	-----	128MB
8MB	8MB	-----	-----	16MB
16MB	8MB	-----	-----	24MB
32MB	8MB	-----	-----	40MB
64MB	8MB	-----	-----	72MB
128MB	8MB	-----	-----	136MB
8MB	8MB	8MB	-----	24MB
8MB	8MB	8MB	-----	24MB
16MB	8MB	8MB	-----	32MB
32MB	8MB	8MB	-----	48MB
64MB	8MB	8MB	-----	80MB
128MB	8MB	8MB	-----	144MB
8MB	8MB	8MB	8MB	32MB
16MB	8MB	8MB	8MB	40MB

168-pin DIMM (3.3V) SDRAM o EDO DRAM (continua)
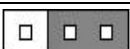
Bank0 (DIMM4)	Bank1 (DIMM3)	Bank2 (DIMM2)	Bank3 (DIMM1)	Totale
32MB	8MB	8MB	8MB	56MB
64MB	8MB	8MB	8MB	88MB
128MB	8MB	8MB	8MB	152MB
16MB	16MB	-----	-----	32MB
32MB	16MB	-----	-----	48MB
64MB	16MB	-----	-----	80MB
128MB	16MB	-----	-----	144MB
16MB	16MB	8MB	-----	40MB
32MB	16MB	8MB	-----	56MB
64MB	16MB	8MB	-----	88MB
128MB	16MB	8MB	-----	152MB
16MB	16MB	8MB	8MB	48MB
32MB	16MB	8MB	8MB	64MB
64MB	16MB	8MB	8MB	96MB
128MB	16MB	8MB	8MB	160MB
16MB	16MB	16MB	-----	48MB
32MB	16MB	16MB	-----	64MB
64MB	16MB	16MB	-----	96MB
128MB	16MB	16MB	-----	160MB
16MB	16MB	16MB	8MB	56MB
32MB	16MB	16MB	8MB	72MB
64MB	16MB	16MB	8MB	104MB
128MB	16MB	16MB	8MB	168MB
16MB	16MB	16MB	16MB	64MB
32MB	16MB	16MB	16MB	80MB
64MB	16MB	16MB	16MB	112MB
128MB	16MB	16MB	16MB	176MB
32MB	32MB	-----	-----	64MB
64MB	32MB	-----	-----	96MB
64MB	32MB	-----	-----	96MB
128MB	32MB	-----	-----	160MB
32MB	32MB	8MB	-----	72MB
64MB	32MB	8MB	-----	104MB
128MB	32MB	8MB	-----	168MB

32MB	32MB	8MB	8MB	80MB
64MB	32MB	8MB	8MB	112MB
128MB	32MB	8MB	8MB	176MB
32MB	32MB	16MB	-----	80MB
64MB	32MB	16MB	-----	112MB
128MB	32MB	16MB	-----	176MB
32MB	32MB	16MB	16MB	96MB
64MB	32MB	16MB	16MB	128MB
128MB	32MB	16MB	16MB	192MB
32MB	32MB	32MB	-----	96MB
64MB	32MB	32MB	-----	128MB
128MB	32MB	32MB	-----	192MB
32MB	32MB	32MB	32MB	128MB
64MB	32MB	32MB	32MB	160MB
128MB	32MB	32MB	32MB	224MB
64MB	64MB	-----	-----	128MB
128MB	64MB	-----	-----	192MB
64MB	64MB	8MB	-----	136MB
128MB	64MB	8MB	-----	200MB
64MB	64MB	8MB	8MB	144MB
128MB	64MB	8MB	8MB	208MB
64MB	64MB	16MB	-----	144MB
128MB	64MB	16MB	-----	208MB
64MB	64MB	16MB	16MB	160MB
128MB	64MB	16MB	16MB	224MB
64MB	64MB	32MB	-----	160MB
128MB	64MB	32MB	-----	224MB
64MB	64MB	32MB	32MB	192MB
128MB	64MB	32MB	32MB	256MB
64MB	64MB	64MB	-----	192MB
128MB	64MB	64MB	-----	256MB
64MB	64MB	64MB	64MB	256MB
128MB	64MB	64MB	64MB	320MB
128MB	128MB	128MB	-----	384MB
128MB	128MB	128MB	128MB	512MB

SW1 – Frequenza CPU

Pentium II CPU FREQ.	SW1(1-8)	Switch Settings							
Pentium II 233MHz		1 2 3 4 5 6 7 8 off off off off on off off on							
Pentium II 266MHz		1 2 3 4 5 6 7 8 off off off off off on on on							
Pentium II 300MHz		1 2 3 4 5 6 7 8 off off off off off on off on							
Pentium II 333MHz		1 2 3 4 5 6 7 8 off off off off off off on on							

JP7 – Cancella CMOS

JP7	Jumper Setting	Funzione
1 2 3	pin 1-2	Normale
1 2 3	pin 2-3	Cancella CMOS

Capitolo 3 – Connettori

J1: PS/2 Keyboard and PS/2 Mouse Connectors
J2, J3: Serial Ports
J5: Parallel Port Connector
J4: USB Connector
J6: Floppy Drive Connector
J9: ATX Power Supply Connector
J10: IrDA Connector
J16: CPU Fan Power Connector
J18, J17: EIDE Connectors
J19: Chassis Fan Power Connector
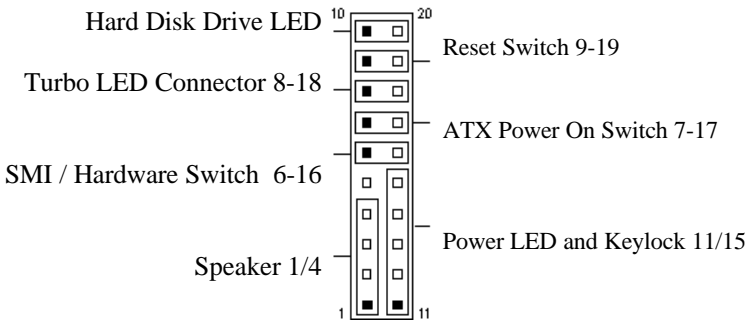J20: Front Bezel Connectors
JP2: Wake on LAN Connector
JP5: CPU Voltage Testing Connector
JP6: SB-Link Connector

J20: Connettore Front Bezel

Hard Disk Drive LED 10 [ ] 20
Reset Switch 9-19

Turbo LED Connector 8-18

ATX Power On Switch 7-17

SMI / Hardware Switch 6-16

Power LED and Keylock 11/15

Speaker 1/4

1 [ ] 11

11

12
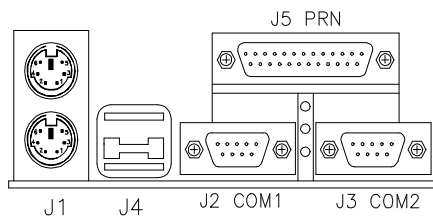
Layout della scheda Power Pro II AGP

Appendice A − Come effettuare l′update del Bios

1. Collegarsi al sito web *http://www.calgraph.com* e verificare l'esistenza di una versione di Bios aggiornata. In caso affermativo, procedere al download del file Bios

2. Creare un dischetto d'avvio, tramite i comandi DOS
   - *format a: /s*
   - sys a: (se il dischetto è già formattato)

3. Estrarre i file del Bios copiandoli sul dischetto di avvio appena creato. Due sono i file necessari all'operazione: l'utility Flash Bios
   (ad es. awd*flash.exe*) ed il file Bios (ad es. ti62lcgp.*bin)*

4. Inserire il dischetto nel lettore floppy e riavviare il PC, assicurandosi che l'opzione *Boot Sequence* del Bios sia impostata su *A: C:*

5. Dal prompt *A:* digitare il nome dell'utility Flash - poi il nome del file Bios .bin

6. Digitare *Y* per salvare il vecchio Bios ed assegnargli un nome

7. Digitare *Y* alla domanda *Are you sure to program?* ed attendere che appaia il messaggio *Power off or Reset the system*

8. Rimuovere il dischetto dal lettore floppy e riavviare il PC, tenendo premuto il tasto *CANC* per entrare nel CMOS Setup. Compiere questa operazione solo al primo riavvio dopo l'upgrade del Bios

*Non spegnere o resettare il computer durante l'operazione di Flashing

Appendice B – Profilo aziendale

Stabilito il suo quartier generale in Fremont, California (USA), California Graphics & Peripherals Inc. è diventata col passare del tempo una vera azienda globale. Specializzatasi nell' implementazione della più avanzata tecnologia per PC, i suoi punti di forza sono attualmente la progettazione e la produzione di schede madri e schede grafiche high-tech. Le strategie aziendali convergono verso una produzione di altissima qualità, pienamente rispondente alle sempre più esasperate esigenze di mercato.

Gli uffici europei hanno sede in Italia ed in Inghilterra, a parziale realizzazione dell'aggressivo programma di espansione in atto in Europa, che ha l'obiettivo di creare numerosi punti di vendita e di supporto dislocati nelle principali nazioni del continente. Gli uffici italiani ospitano il team di programmazione software, autore dei performanti drivers con cui sono equipaggiate le schede grafiche California Graphics.

La sede di Taipei, Taiwan controlla le catene di produzione, e provvede alla distribuzione dei prodotti in Asia e nelle regioni del Pacifico.

La qualità è la parola d'ordine dell'azienda, che si riflette in primo luogo proprio sul processo produttivo. Utilizzando esclusivamente PCB a quattro strati e la tecnologia di assemblaggio *full surface mount*, l'azienda commercializza prodotti di altissima manifattura, garantiti a vita.

Il capitolo successivo è stato redatto in inglese e contiene tutte le informazioni utili alla configurazione del Bios.
Alcuni valori indicati come *Default* potrebbero non corrispondere. Qualora venga effettuato l'update del Bios, alcune descrizioni e/o opzioni potrebbero non corrispondere.

Capitolo 4 - Award BIOS Setup

BIOS Introduction

The Award BIOS (Basic Input/Output System) installed in your computer system's ROM supports Intel/Cyrix/AMD processors in a standard IBM-AT compatible I/O system. The BIOS provides critical low-level support for standard devices such as disk drives, serial and parallel ports. It also adds virus and password protection as well as special support for detailed fine-tuning of the chipset controlling the entire system.

BIOS Setup

The Award BIOS provides a Setup utility program for specifying the system configurations and settings. The BIOS ROM of the system stores the Setup utility. When you turn on the computer, the Award BIOS is immediately activated. Pressing the <Del> key immediately allows you to enter the Setup utility. If you are a little bit late pressing the <Del> key, POST(Power On Self Test) will continue with its test routines, thus preventing you from invoking the Setup. If you still wish to enter Setup, restart the system by pressing the »Reset» button or simultaneously pressing the <Ctrl>, <Alt> and <Delete> keys. You can also restart by turning the system Off and back On again. The following message will appear on the screen:

```
Press  <DEL>  to  Enter  Setup
```

In general, you press the arrow keys to highlight items, <Enter> to select, the <PgUp> and <PgDn> keys to change entries, <F1> for help and <Esc> to quit.

When you enter the Setup utility, the Main Menu screen will appear on the screen. The Main Menu allows you to select from various setup functions and exit choices.

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

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGURATION	HDD LOW LEVEL FORMAT
LOAD BIOS DEFAULTS	SAVE & EXIT SETUP
LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING
ESC : Quit	F8 : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Time, Date, Hard Disk Type	

The section below the setup items of the Main Menu displays the control keys for this menu. Another section at the bottom of the Main Menu just below the control keys section displays information on the currently highlighted item in the list.

NOTE: *After making and saving system changes with Setup, you find that your computer cannot boot, the Award BIOS supports an override to the CMOS settings that resets your system to its default.*

We strongly recommend that you avoid making any changes to the chipset defaults. These defaults have been carefully chosen by both Award and your system manufacturer to provide the absolute maximum performance and reliability.

17

Standard CMOS Setup

«Standard CMOS Setup» choice allows you to record some basic hardware configurations in your computer system and set the system clock and error handling. If the motherboard is already installed in a working system, you will not need to select this option. You will need to run the Standard CMOS option, however, if you change your system hardware configurations, the onboard battery fails, or the configuration stored in the CMOS memory was lost or damaged.

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

 Date (mm:dd:yy) : Mon,  Dec  1 1996
 Time (hh:mm:ss) :  00 : 00 : 00

HARD DISKS        TYPE    SIZE   CYLS   HEAD   PRECOMP   LANDZ   SECTOR    MODE

Primary Master    Auto     0      0      0        0        0       0       Auto
Primary Slave     None     0      0      0        0        0       0       -----
Secondary Master  None     0      0      0        0        0       0       -----
Secondary Slave   None     0      0      0        0        0       0       -----

Drive A           : 1.44M, 3.5in              Base Memory      :        640K
Drive B           : None                      Extended Memory  :      15360K
Floppy 3 Mode Support : Disabled              Other Memory     :        384K
Video             : EGA / VGA
Halt On           : All Errors                Total Memory     :      16384K

 ESC : Quit             F6 : Select Item          PU / PD / + / - : Modify
 F1  : Help             (Shift) F2  : Change Color
```

At the bottom of the menu are the control keys for use on this menu. If you need any help in each item field, you can press the <F1> key. It will display the relevant information to help you. The memory display at the lower right-hand side of the menu is read-only. It will adjust automatically according to the memory changed. The following describes each item of this menu.

Date
The date format is:
Day :	**Sun to Sat**
Month :	**1 to 12**
Date :	**1 to 31**
Year :	**1994 to 2079**

To set the date, highlight the «Date» field and use the PageUp/ PageDown or +/- keys to set the current time.

Time
The time format is: **Hour   : 00 to 23**
Minute : 00 to 59
Second : 00 to 59
To set the time, highlight the «Time» field and use the <PgUp>/ <PgDn> or +/- keys to set the current time.

Primary HDDs / Secondary HDDs
The onboard PCI IDE connectors provide Primary and Secondary channels for connecting up to four IDE hard disks or other IDE devices. Each channel can support up to two hard disks; the first is the «Master» and the second is the «Slave».

To enter the specifications for a hard disk drive, you must select first a «Type». There are 45 predefined types and 4 user definable types are for Enhanced IDE BIOS. Type 1 to 45 are predefined. Type «User» is user-definable. For the Primary Master/Slave as well as Secondary Master/Slave, you can select «Auto» under the TYPE and MODE fields. This will enable auto detection of your IDE drives and CD-ROM drive during POST.

Press <PgUp>/<PgDn> to select a numbered hard disk type or type the number and press the <Enter> key. The hard disk will not work properly if you enter incorrect information for this field. If your hard disk drive type is not matched or listed, you can use Type User to define your own drive type manually. If you select Type User, related information is asked to be entered to the following items.

CYLS :	Number of cylinders
HEAD :	Number of read/write heads
PRECOMP :	Write precompensation
LANDZ :	Landing zone
SECTOR :	Number of sectors
SIZE :	Automatically adjust according to the configuration

19

MODE (for IDE HDD only) :   Auto
                                     Normal (HD < 528MB)
                                     Large   (for MS-DOS only)
                                     LBA   (HD > 528MB and supports
                                                   Logical Block Addressing)

NOTE: The specifications of your drive must match with the drive table. The hard disk will not work properly if you enter incorrect information in these fields. If your hard disk drive type is not matched or listed, you can use Type User to define your own drive type manually.

Drive A / Drive B
These fields identify the types of floppy disk drive A or drive B that has been installed in the computer. The available specifications are:

        360KB   1.2MB   720KB   1.44MB 2.88MB
        5.25 in.   5.25 in.   3.5 in.   3.5 in.   3.5 in.

Floppy 3 Mode Support
This is the Japanese standard floppy drive. The standard stores 1.2MB in a 3.5-inch diskette. You have four options to choose:

Disabled	No 3 mode floppy drive installed. (default)
Drive A	Installed 3 mode drive at drive A.
Drive B	Installed 3 mode drive at drive B.
Both	Installed 3 mode drive at drive A and B.

Video
This field selects the type of video display card installed in your system. You can choose the following video display cards:

EGA/VGA	For EGA, VGA, SEGA, SVGA or PGA monitor adapters. (default)
CGA 40	Power up in 40 column mode.
CGA 80	Power up in 80 column mode.
MONO	For Hercules or MDA adapters.

Halt On
This field determines whether the system will halt if an error is detected during power up.

20

No errors	Whenever the BIOS detects a non-fatal error, the system will stop and you will be prompted.
All errors	The system boot will not be halted for any error that may be detected. (default)
All, But Keyboard	The system boot will not be halted for a keyboard error; it will stop for all other errors
All, But Diskette	The system boot will not be halted for a disk error; it will stop for all other errors.
All, But Disk/Key	The system boot will not be halted for a key-board or disk error; it will stop for all others.

6.4 BIOS Features Setup

This section allows you to configure and improve your system and allows you to set up some system features according to your preference.

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
Quick Power On Self Test	: Enabled	D0000-D3FFF Shadow	: Disabled
Boot Sequence	: A, C, SCSI	D4000-D7FFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	D8000-DBFFF Shadow	: Disabled
Boot Up Floppy Drive	: Enabled	DC000-DFFF Shadow	: Disabled
Boot Up Numlock Status	: On		
Boot Up System Speed	: High		
Gate A20 Option	: Fast		
Typematic Rate Setting	: Disabled		
Typematic Rate (chars/Sec)	: 6		
Typematic Delay (Msec)	: 250		
Security Option	: Setup		
PCI /VGA Palette Snoop	: Disabled		
OS Select For DRAM>64MB	: Non-OS2	ESC : Quit	F6 : Select Item
		F1 : Help	PU/PD/+/- : Modify
		F5 : Old Values	(Shift) F2 : Color
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

Virus Warning

This item protects the boot sector and partition table of your hard disk against accidental modifications. If an attempt is made, the BIOS will halt the system and display a warning message. If this occurs, you can either allow the operation to continue or run an anti-virus program to locate and remove the problem.

21

NOTE: Many disk diagnostic programs which attempt to access the boot sector table can cause the virus warning. If you will run such a program, disable the Virus Warning feature.

CPU Internal Cache / External Cache
Cache memory is additional memory that is much faster than conventional DRAM (system memory). CPUs from 486-type on up contain internal cache memory, and most, but not all, modern PCs have additional (external) cache memory. When the CPU requests data, the system transfers the requested data from the main DRAM into cache memory, for even faster access by the CPU. These items allow you to enable (speed up memory access) or disable the cache function. By default, these items are ***Enabled***.

Quick Power On Self Test
This choice speeds up the Power On Self Test (POST) after you power up the system. If it is set to *Enabled*, BIOS will skip some items. By default, this choice is ***Enabled***.

Boot Sequence
This field determines the drive that the system searches first for an operating system. The options are :

A, C, SCSI	D, A, SCSI	SCSI, C, A
C, A, SCSI	E, A, SCSI	C only
C, CDROM, A	F, A, SCSI	LS/ZIP, C
CDROM, C, A	SCSI, A, C	

The default value is ***A, C, SCSI***.

Swap Floppy Drive
This item allows you to determine whether to enable Swap Floppy Drive or not. When enabled, the BIOS swaps floppy drive assignments so that Drive A becomes Drive B, and Drive B becomes Drive A. By default, this field is set to ***Disabled.***

Boot Up Floppy Seek
When enabled, the BIOS will seek whether or not the floppy drive installed has 40 or 80 tracks. 360K type has 40 tracks while 760K, 1.2M and 1.44M all have 80 tracks. By default, this field is set to ***Enabled.***

Boot Up NumLock Status

This allows you to activate the NumLock function after you power up the system. By default, the system boots up with *NumLock* On.

Boot Up System Speed
This has no function and selects the default system speed *(High).*

Gate A20 Option
This field allows you to select how Gate A20 is worked. The Gate A20 is a device used to address memory above 1 MB. By default, this field is set to *Fast.*

Typematic Rate Setting
When disabled, continually holding down a key on your keyboard will generate only one instance. When enabled, you can set the two typematic controls listed next. By default, this field is set to *Disabled.*

Typematic Rate (Chars/Sec)
When the typematic rate is enabled, the system registers repeated keystrokes speeds. You can select speed range from 6 to 30 characters per second. By default, this item is set to *6.*

Typematic Delay (Msec)
When the typematic rate is enabled, this item allows you to set the time interval for displaying the first and second characters. By default, this item is set to *250msec.*

Security Option
This field allows you to limit access to the System and Setup. The default value is *Setup*. When you select *System,* the system prompts for the User Password every time you boot up. When you select *Setup,* the system always boots up and prompts for the Supervisor Password only when the Setup utility is called up.

PCI/VGA Palette Snoop
Some non-standard VGA display cards may not show colors properly. This field allows you to set whether MPEG ISA/VESA VGA Cards can work with PCI/VGA or not. When this field is enabled, a PCI/VGA can work with a MPEG ISA/VESA VGA card. When this field is disabled, a PCI/VGA cannot work with a MPEG ISA/VESA Card.

OS Select for DRAM > 64MB

23

This option allows the system to access greater than 64MB of DRAM memory when used with OS/2 that depends on certain BIOS calls to access memory. The default setting is ***NON-OS/2***.

Video BIOS Shadow
This item allows you to change the Video BIOS location from ROM to RAM. Video Shadow will increase the video speed.

C8000 - CBFFF Shadow/DC000 - DFFFF Shadow
Shadowing a ROM reduces the memory available between 640KB to 1024KB. These fields determine whether optional ROM will be copied to RAM or not.

Chipset Features Setup

This Setup menu controls the configuration of the motherboard chipset.

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

  Auto Configuration        : Enabled    CPU Warning Temperature
  DRAM Speed Selection      : 60ns
  MA Wait State             : Slow       Current CPU Block Temp.
  DRAM Integrity Mode       Non-ECC      Current CPU/Chips Block Temp.
  CPU To PCI IDE Posting    Enabled      Current System Temp.
  System BIOS Cacheable     : Enabled    Current Chassis Fan Speed     : 2789 RPM
  Video BIOS Cacheable      : Enabled    Current CPU Fan Speed         : 2045 RPM
  Video RAM Cacheable       : Disabled
  8 Bit I/O Recovery Time   : 4          VCCP (V):     1.98 V    VTT (V)  :    1.50 V
  16 Bit I/O Recovery Time  : 3          VCC3 (V) :    3.45 V    + 5 V    :    4.99 V
  Memory Hole At 15MB       : Disabled   +12 V   :   12.46 V    -12 V    :  -12.54V
  Passive Release           : Enabled    -5V     :   - 5.21 V
  Delayed Transaction       : Disabled
  AGP Aperture Size (MB)    : 64
  SDRAM RAS-to-CAS Delay    : Slow
  SDRAM RAS Precharge Time  : Slow
  SDRAM CAS Latency Time    3            ESC : Quit          F6 : Select Item
                                         F1 : Help           PU/PD/+/- : Modify
                                         F5 : Old Values      (Shift) F2 : Color
                                         F6 : Load BIOS Defaults
                                         F7 : Load Setup Defaults
```

Auto Configuration
This field predefined values for DRAM, cache timing according to CPU type and system clock. When this field is enabled, the predefined items will become read-only.

DRAM Cycle Speed Selection
This field sets the DRAM cycle speed. The options are 60ns and 70ns. By default, this field is set to *60ns*.

MA Wait State
This field sets the wait state of the memory address. The settings are *Fast* and *Slow*. By default, this field is set to *Slow*.

CPU to PCI IDE Posting
When enabled, the CPU to PCI IDE posting cycles are treated as normal I/O write transactions. The default setting is *Enabled*.

System BIOS Cacheable
When enabled, access to the system BIOS ROM addressed at F0000H-FFFFFH are cached, provided that the cache controller is disabled.

Video BIOS Cacheable
When enabled, access to video BIOS addressed at C0000H to C7FFFH are cached, provided that the cache controller is disabled.

Video RAM Cacheable
Selecting *Enabled* allows caching of the video BIOS ROM at C0000h to C7FFFh, resulting in better video performance. However, if any program writes to this memory area, a memory access error may result.

8 Bit I/O Recovery Time
This option specifies the length of the delay (in sysclks) inserted between consecutive 8-bit I/O operations. The settings are 1, 2, 3, 4, 5, 6, 7, or 8. The default setting is *4*.

16 Bit I/O Recovery Time
This option specifies the length of the delay (in sysclks) inserted between consecutive 16-bit I/O operations. The settings are 1, 2, 3, 4, 5, 6, 7, or 8. The default setting is *3*.

Memory Hole at 15MB Addr.
In order to improve performance, certain space in memory can be reserved for ISA cards. This field allows you to reserve 15MB to 16MB memory address space to ISA expansion cards. This makes memory from 15MB and up unavailable to the system. Expansion cards can only access memory up to 16MB. By default, this field is set to *Disabled*.

Passive Release
When enabled, CPU to PCI bus accesses are allowed during passive release. Otherwise, the arbiter only accepts another PCI master access to local DRAM.

Delayed Transaction
The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select *Enabled* to support compliance with PCI specification version 2.1. The default setting is ***Disabled***.

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

SDRAM RAS-to-CAS Delay
This field lets you insert a timing delay between the CAS and RAS strobe signals, used when DRAM is written to, read from, or refreshed. *Fast* gives faster performance; and *Slow* gives more stable performance. The default setting is ***Slow***.

SDRAM RAS Precharge Time
If an insufficient number of cycles is allowed for the RAS to accumulate its charge before DRAM refresh, the refresh may be incomplete and the DRAM may fail to retain data. *Fast* gives faster performance; and *Slow* gives more stable performance. The default setting is ***Slow***.

SDRAM CAS Latency Time
When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. Do not reset this field from the default value specified by the system designer.

CPU Warning Temperature
This field sets the threshold temperature at which an alert is sounded through the system's speaker. The CPU temperature is monitored by the onboard thermal sensor to prevent the CPU from overheating.

Current CPU/Chips Block Temp. / Current System Temp.

These read-only fields reflect the functions of the optional hardware thermal sensor that monitors the chip blocks and system temperatures to ensure the system runs stable.

Current Chassis / CPU Fan Speed

These optional and read-only fields show the current speeds in RPM (revolution per minute) for the CPU fan and Chassis fan as monitored by the optional hardware monitoring IC.

VCCP / VTT / VCC3

These optional and read-only fields show the current voltages in the voltage regulators and power supply as monitored by the optional hardware monitoring IC.

Power Management Setup

The Power Management Setup allows you to save energy of your system effectively. It will shut down the hard disk and turn off video display after a period of inactivity.

```
                    ROM PCI/ISA BIOS (2A59IM29)
                    POWER MANAGEMENT SETUP
                     AWARD  SOFTWARE,  INC.

 Power Management       : Disabled      ** Reload Global Timer Events **
 PM Control by APM      : Yes        IRQ3 (3-7, 9-15), NMI    : Disabled
 Video Off Method       : V/H SYNC +Blank  Primary IDE 0       : Enabled
 Video Off After        : Standby    Primary IDE 1            : Enabled
 MODEM Use IRQ          : 3          Secondary IDE 0          : Disabled
 Doze Mode              : Disabled    Secondary IDE 1          : Disabled
 Standby Mode           : Disabled    Floppy Disk             : Disabled
 Suspend Mode           : Disabled    Serial Port             : Enabled
 HDD Power Down         : Disabled   Parallel Port            : Disabled
 Throttle Duty Cycle    : 62.5%
 VGA Active Monitor     : Enabled
 IRQ 8 Break Suspend    : Disabled
 Soft-Off by PWR-BTTN   : Instant-Off
 Resume by Ring         : Disabled
 Resume by Alarm        : Disabled
                                     ESC : Quit        F6: Select Item
                                     F1 : Help         PU/PD/+/- : Modify
                                     F5 : Old Values    (Shift) F2 : Color
                                     F6 : Load BIOS Defaults
                                     F7 : Load Setup Defaults
```

27

Power Management
This field allows you to select the type of power saving management modes.
There are fours selections for Power Management.

Disabled	No power management
Min. Power Saving	Minimum power management
Max. Power Saving	Maximum power management. Only available for SL CPU
User Define	Each of the ranges are from 1 min. to 1hr. Except for HDD Power Down which ranges from 1 min. to 15 min. (Default)

NOTE: In order to enable the CPU overheat protection feature, the Power Management field should not be set to Disabled.

PM Control by APM
This field allows you to use the Advanced Power Management device to enhance the Max. Power Saving mode and stop the CPU's internal clock. If the Max. Power Saving is not enabled, this will be preset to NO.

Video Off Method
This field defines the Video Off features. There are three options.
V/H SYNC + Blank   Default setting, blank the screen and turn off vertical and horizontal scanning.
DPMS   Allows the BIOS to control the video display card if it supports the DPMS feature.
Blank Screen   This option only writes blanks to the video buffer.

Video Off After
As the system moves from lesser to greater power-saving modes, select the mode in which you want the monitor to blank.

Modem Use IRQ
This field names the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system. By default, the IRQ is set to *3*.

Doze Mode
When enabled, and after the set time of system inactivity, the CPU clock will run at a slower speed while all other devices still operate at full speed.

Standby Mode
After the selected period of system inactivity, the fixed disk drive and the video shut off while all other devices still operate at full speed.

Suspend Mode
When enabled, and after the set time of system inactivity, all devices except the CPU will be shut off.

HDD Power Down
When enabled, and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.

Throttle Duty Cycle
When the system enters Doze mode, the CPU clock runs only part of the time. You may select the percent of time that the clock runs.

VGA Active Monitor
When enabled, any video activity restarts the global timer for Standby mode. The default setting is *Enabled*.

IRQ 8 Break Suspend
You can enable or disable monitoring of IRQ8 (the Real Time Clock) so it does not awaken the system from Suspend mode.

Soft-Off by PWR-BTTN
This field defines the power-off mode when using an ATX power supply. The Instant-Off mode allows powering off immediately upon pressing the power button. In the Delay 4 Sec mode, the system powers off when the power button is pressed for more than four seconds or places the system in a very low-power-usage state, with only enough circuitry receiving power to detect power button activity or Resume by Ring activity (see next field) when pressed for less than 4 seconds. The default value is *Instant-Off*.

Resume by Ring
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.

29

Resume by Alarm
This allows a computer to be turned on automatically through the timer set int he BIOS to make the system more scheduleable. By degault, this field is set to *Disabled*.

Reload Global Timer Events
When enabled, an event occurring on each listed device restarts the global timer for Standby mode.

PNP/PCI Configuration

This option configures the PCI bus system. All PCI bus systems on the system use INT#, thus all installed PCI cards must be set to this value.

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

PNP OS Installed	: No	PCI IDE IRQ Map To	: PCI-AUTO
Resources Controlled by	: Manual	Primary IDE INT#	: A
Reset Configuration Data	: Disabled	Secondary IDE INT#	: B
IRQ-3 assigned to	: Legacy ISA	Used MEM base addr	: N/A
IRQ-4 assigned to	: Legacy ISA		
IRQ-5 assigned to	: PCI/ISA PnP		
IRQ-7 assigned to	: Legacy ISA		
IRQ-9 assigned to	: PCI/ISA PnP		
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	F6 : 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	

PNP OS Installed
This field allows you to specify if the operating system installed in your system is plug and play aware.
NOTE: Operating systems such as DOS, OS/2, and Windows 3.x do not use PnP

Resources Controlled by
This PnP BIOS can configure all of the boot and compatible devices automatically. However, this capability needs you to use a PnP operating system such as Windows 95. The default value is ***Manual***.

Reset Configuration Data
This field allows you to determine whether to reset the configuration data or not. The default value is ***Disabled***.

IRQ3/4/5/7/9/10/11/12/14/15, DMA0/1/3/5/6/7 assigned to
These fields allow you to determine the IRQ/DMA assigned to the ISA bus and is not available to any PCI slot.

PCI IDE IRQ Map To
This field lets you select PCI IDE IRQ mapping or PC AT (ISA) interrupts. If your system does not have one or two PCI IDE connectors on the system board, select values according to the type of IDE interface(s) installed in your system (PCI or ISA). Standard ISA interrupts for IDE channels are IRQ14 for primary and IRQ15 for secondary.

Used MEM base addr
Select a base address for the memory area used by any peripheral that requires high memory. The default setting is ***N/A***.

Load BIOS Defaults

This option allows you to load the troubleshooting default values permanently stored in the BIOS ROM. These default settings are non-optimal and disable all high-performance features.

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

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGURATION	HDD LOW LEVELF ORMAT
LOAD BIOS DEFAULTS	SAVE & EXIT SETUP
LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING
ESC : Quit	F8 : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Load BIOS Defaults except Standard CMOS Setup	

To load BIOS defaults value to CMOS SRAM, enter «Y». If not, enter «N».

Load Setup Defaults

This option allows you to load the default values to your system configuration. These default settings are optimal and enable all high performance features.

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

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGURATION	HDD LOW LEVEL FORMAT
LOAD BIOS DEFAULTS	SAVE & EXIT SETUP
LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING
ESC : Quit	F8 : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Load BIOS Defaults except Standard CMOS Setup	

To load SETUP defaults value to CMOS SRAM, enter «Y». If not, enter «N».

33

Integrated Peripherals

This option sets your hard disk configuration, mode and port.

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

IDE HDD Block Mode	: Enabled	Onboard FDC Controller	: Enabled
IDE Primary Master PIO	: Auto	Onboard Serial Port 1	: 3F8/IRQ4
IDE Primary Slave PIO	: Auto	Onboard Serial Port 2	: 2F8/IRQ3
IDE Secondary Master PIO	: Auto	UART Mode Select	: Normal
IDE Secondary Slave PIO	: Auto		
IDE Primary Master UDMA	: Auto		
IDE Primary Slave UDMA	: Auto	Onboard Parallel Port	: 378/IRQ7
IDE Secondary Master UDMA	: Auto	Parallel Port Mode	: SPP
IDE Secondary Slave UDMA	: Auto		
On-Chip Primary PCI IDE	: Enabled		
On-Chip Secondary PCI IDE	: Enabled		
USB Keyboard Support	: Disabled		

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

IDE HDD Block Mode
This field allows your hard disk controller to use the fast block mode to transfer data to and from your hard disk drive.

IDE Primary/Secondary Master/Slave PIO
These fields allow your system hard disk controller to work faster. Rather than have the BIOS issue a series of commands that transfer to or from the disk drive, PIO (Programmed Input/Output) allows the BIOS to communicate with the controller and CPU directly.

The system supports five modes, numbered from 0 (default) to 4, which primarily differ in timing. When Auto is selected, the BIOS will select the best available mode.

IDE Primary/Secondary Master/Slave UDMA
These fields allow your system to improve disk I/O throughput to 33Mb/sec with the Ultra DMA/33 feature. The options are *Auto* and *Disabled*.

34

On-Chip Primary/Secondary PCI IDE
The integrated peripheral controller contains an IDE interface with support for two IDE channels. Select *Enabled* to activate each channel separately.

USB Keyboard Support
Select *Enabled* if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard.

Onboard FDC Controller
Select *Enabled* if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you install an add-in FDC or the system has no floppy drive, select Disabled in this field. This option allows you to select the onboard FDD port.

Onboard Serial/Parallel Port
These fields allow you to select the onboard serial and parallel ports and their addresses. The default value for these ports are:

Serial Port 1	3F8/IRQ4
Serial Port 2	2F8/IRQ3
Parallel Port	378H/IRQ7

UART Mode Select
This field determines the UART mode in your computer. The settings are *Normal, IrDA and ASKIR*. The default value is **Normal**.

Parallel Port Mode
This field allows you to determine parallel port mode function.

SPP	Normal Printer Port
EPP	Enhanced Parallel Port
ECP	Extended Capabilities Port

Supervisor / User Password

These two options set the system password. Supervisor Password sets a password that will be used to protect the system and Setup utility. User Password sets a password that will be used exclusively on the system. To specify a password, highlight the type you want and press <Enter>. The Enter Password: message prompts on the screen. Type the password, up to eight characters in length, and press <Enter>. The system confirms your password by asking you to type it again. After setting a password, the screen automatically returns to the main screen.

To disable a password, just press the <Enter> key when you are prompted to enter the password. A message will confirm the password to be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

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

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	**SUPERVISOR PASSWORD**
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGURATION	HDD LOW LEVEL FORMAT
LOAD BIOS DEFAULTS	SAVE & EXIT SETUP
LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING
ESC : Quit	F8 : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Change / Set / Disable Password	

IDE HDD Auto Detection

This option detects the parameters of an IDE hard disk drive, and automatically enters them into the Standard CMOS Setup screen.

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

HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master:								

Select Primary Master Option (N=SKIP) : N

OPTIONS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
1 (Y)	0	0	0	0	0	0	0	NORMAL

NOTE: Some OSes (like SCO-UNIX) must use »NORMAL» for installation

Up to four IDE drives can be detected, with parameters for each appearing in sequence inside a box. To accept the displayed entries, press the «Y» key; to skip to the next drive, press the «N» key. If you accept the values, the parameters will appear listed beside the drive letter on the screen.

HDD Low Level Format

This option should only be used by a professional. Low-level formatting can cause irreparable damage to your hard disk. The procedures include selecting the drive you want to low-level format, determining the bad tracks, and proceeding with pre-formatting.

Save & Exit Setup

This option allows you to determine whether to accept the modifications or not. If you type «Y», you will quit the setup utility and save all changes into the CMOS memory. If you type «N», you will return to Setup utility.

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

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGURATION	HDD LOW LEVEL FORMAT
LOAD BIOS DEFAULTS	**SAVE & EXIT SETUP**
LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING
ESC : Quit	F8 : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Save Data to CMOS & Exit Setup	

Exit Without Saving

Select this option to exit the Setup utility without saving the changes you have made in this session. Typing «Y» will quit the Setup utility without saving the modifications. Typing «N» will return you to Setup utility.

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

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGURATION	HDD LOW LEVEL FORMAT
LOAD BIOS DEFAULTS	SAVE & EXIT SETUP
LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING
ESC : Quit	F8 : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Abandon all Data & Exit Setup	