

MP-6VIP-D

Motherboard

User's Manual

Product Name: MP-6VIP-D
Manual Revision: English, 1.00
Release Date: January, 2000

Federal Communications Commission Statement

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

- ♦ This device may not cause harmful interference
- ♦ This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy. If this equipment is not installed and used in accordance with the manufacturer's instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ♦ Reorient or relocate the receiving antenna.
- ♦ Increase the separation between the equipment and receiver.
- ♦ Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- ♦ Consult the dealer or an experienced radio/TV technician for help.

The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for audio noise emissions from digital apparatuses set out in the Radio Interference Regulations of the Canadian Department of Communications.

Manufacturer's Disclaimer Statement

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Printed in Taiwan

January 2000

100% POST-CONSUMER
RECYCLED PAPER 

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MP-6VIP-D

VIA 82C693A SOCKET-370

F E A T U R E

■ PROCESSOR

- Supports Intel PPGA Celeron 370 / FC-PGA Pentium III (Coppermine) CPUs 300 ~ 550E or higher.
- Supports 66/ 75*/ 83*/ 100/ 103*/ 105*/ 124*/ 133/ 140*/ 150*MHz system bus speeds.
- Clock multipliers up to 8x.

■ CHIPSET

- VIA 82C693A + 686A (133MHz FSB).

■ ONBOARD SOUND

- Built-In AC'97 Audio Codec.
- Supports Line-In, Mic-In, Speaker-Out / Line-Out connector and MIDI port.

■ SYSTEM MEMORY

- 3x 3.3V DIMM sockets.
- 8MB to 768MB DRAM size.
- ECC or Parity support.

■ SLOT

- 1x AGP slot supports 1x / 2x mode bus; 1x AMR (Audio Modem Riser)slot; 5x PCI Bus Master slots; 1x ISA slot.

■ ONBOARD I/O

- 2x Ultra ATA33/66 Bus Master IDE ports.
- 4x USB ports.
- 1x PS/2 mouse connector and 1x PS/2 keyboard connector.
- 1x 2.88MB Floppy port, 2x High Speed 16550A UART ports and 1x IrDA TX / RX Header.

■ POWER

- ATX power supply connector.
- Power-On by LAN(WOL), RTC Alarm, Modem Ring.

■ BIOS

- 2MB FLASH BIOS.
- Licensed AWARD BIOS, supports SCSI / ZIP / LS-120 / CD-ROM boot and ACPI Power Management.

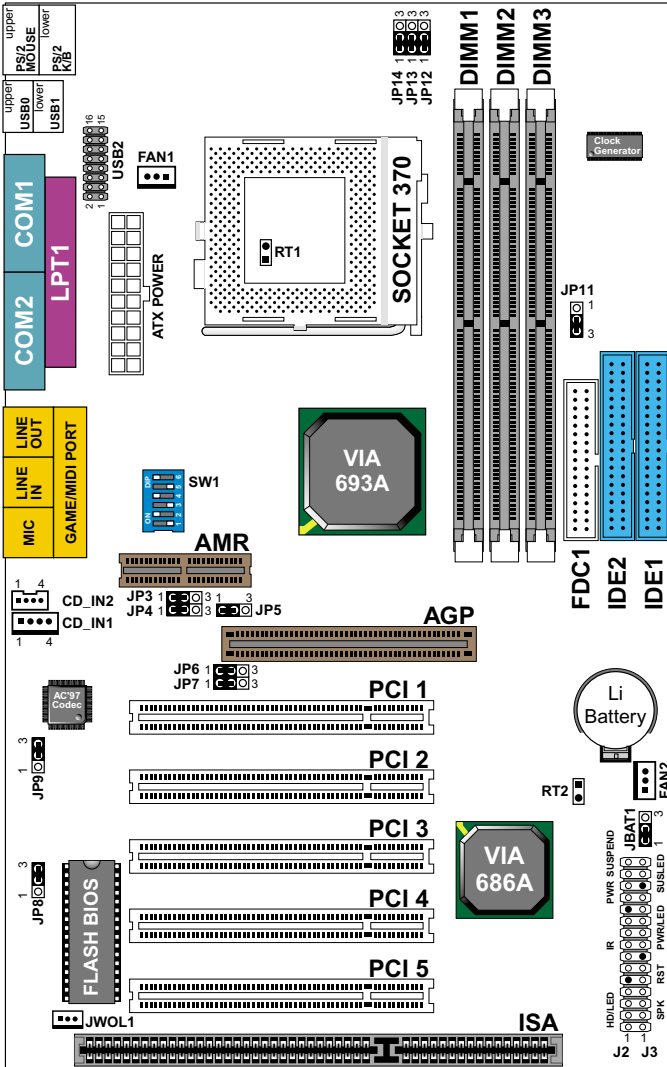
■ FORM FACTOR / PCB

- ATX, 4 layers PCB, 18.5cm x 30.5cm size.

■ OTHER FEATURES

- Hardware Monitor.
- Supports BIOS Writing Protection.

MOTHERBOARD DIAGRAM



Default setting: Intel Celeron 300A/66MHz; Pentium II/III 450/100MHz.

NOTE: For 100MHz/133MHz CPU environment, the SDRAM sepc must comply with PC-100/PC-133 spec.

CPU CLOCK SETTING

CPU Type Configuration

CPU MODEL	SW1	CPU RATIO																		
Celeron 233/66	ON <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td></tr> <tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td></tr> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr> </table>	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	1	2	3	4	5	6	3.5x
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Celeron 266/66	ON <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td></tr> <tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td></tr> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr> </table>	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	1	2	3	4	5	6	4.0x
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Celeron 300/66	ON <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td></tr> <tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td></tr> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr> </table>	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	1	2	3	4	5	6	4.5x
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Celeron 333/66 PentiumIII 500E/100*	ON <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td></tr> <tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td></tr> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr> </table>	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	1	2	3	4	5	6	5.0x
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1	2	3	4	5	6															
Celeron 366/66 PentiumIII 550E/100*	ON <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td></tr> <tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td></tr> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr> </table>	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	1	2	3	4	5	6	5.5x
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Celeron 400/66	ON <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td></tr> <tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td></tr> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr> </table>	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	1	2	3	4	5	6	6.0x
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OFF	OFF	OFF	OFF	OFF	OFF															
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Celeron 466/66	ON <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td></tr> <tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td></tr> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr> </table>	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	1	2	3	4	5	6	7.0x
ON	ON	ON	ON	ON	ON															
OFF	OFF	OFF	OFF	OFF	OFF															
1	2	3	4	5	6															
Celeron 500/66	ON <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td></tr> <tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td></tr> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr> </table>	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	1	2	3	4	5	6	7.5x
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OFF	OFF	OFF	OFF	OFF	OFF															
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Celeron 533/66	ON <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td></tr> <tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td></tr> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr> </table>	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	1	2	3	4	5	6	8.0x
ON	ON	ON	ON	ON	ON															
OFF	OFF	OFF	OFF	OFF	OFF															
1	2	3	4	5	6															

* : Pentium III Coppermin FC-PGA CPUs.

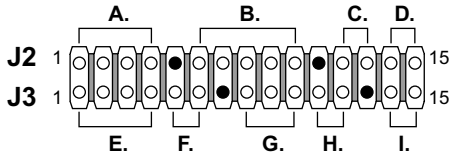
SW1 DIP1 ~ DIP4: Bus Ratio Select

SW1 DIP1 ~ DIP4					
3.0x	ON		6.0x	ON	
3.5x	ON		6.5x	ON	
4.0x	ON		7.0x	ON	
4.5x	ON		7.5x	ON	
5.0x	ON		8.0x	ON	
5.5x	ON				

SW1 DIP5 ~ DIP6: Bus Clock Select

SW1 DIP5 ~ DIP6	JP11: FSB Select
66/100/133MHz Auto Select (default) ON	
100MHz ON	
133MHz ON	

JUMPER SETTING



- | | |
|-------------------|--------------------|
| A. : HDD LED | B. : INFRARED (IR) |
| C. : POWER SWITCH | D. : NONE |
| E. : SPEAKER | F. : RESET SWITCH |
| G. : POWER LED | H. : NONE |
| I. : SUSPEND LED | |

■ FAN#: Onboard FAN (12V) Connector.

FAN#	FUNCTION
FAN1	CPU FAN
FAN2	SYSTEM FAN

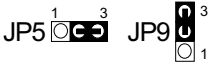
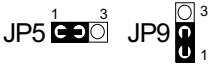
■ JP3 / JP4: USB Port Select (1)

USB Port Select	JP3 / JP4
Redirect USB port3 to USB2 connector (default)	
Redirect USB port3 to AMR	

■ JP6 / JP7: USB Port Select (2)



USB Port Select	JP6 / JP7
Redirect USB port2 to USB2 connector (default)	
Redirect USB port2 to AGP	

■ JP5 / JP9: AC'97 Codec Control







AC'97 Codec	JP5 / JP9
Disabled	
Enabled (default)	

■ JP8: Power Lost Resume

This feature must work with BIOS. Please refer to the BIOS “Power On After PWR-Fail” sector.



Power Lost Resume	JP8
Enabled	
Normal (default)	

■ JP12 / JP13 / JP14: Intel / Cyrix CPU Select

CPU Type	JP12	JP13	JP14
Intel CPU (default)			
Cyrix JOSHUA CPU			

■ JBAT1: Clear CMOS Data

Before you clear the CMOS data, it's necessary to turn the power off first (including +5V standby power). Otherwise, the system may work abnormally or malfunction.

CMOS Status	JBAT1
Retain Data (default)	
Clear CMOS Data	

■ **CD_IN1/CD_IN2: CD-ROM Audio Connector**

PIN #	CD_IN2	CD_IN1
PIN 1	GND	Left Channel
PIN 2	Left Channel	GND
PIN 3	GND	GND
PIN 4	Right Channel	Right Channel

■ **RT2: Thermal Sensor Connector**

■ **GAME/MIDI Port:**

Connect joystick or MIDI to this connector.

■ **MIC :Microphone Jack**

Connect to microphone device.

■ **LINE IN: Audio In Jack**

Connect audio line in.

■ **LINE OUT/SPEAKER OUT: Audio Out Jack**

Connect audio line out or speaker out.

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

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

DRIVERS & SOFTWARES INSTALLATION

Onboard AC'97 Audio Codec Controller driver installation

For Windows95 / Windows98:

1. Go to CD-ROM directory, we suggest that's D:\.
2. Find and run D:\MB\VIA\AUDIO\SETUP.EXE
3. The installation will detect your O.S. to install relative files into your system.
4. Reboot the computer.

NOTE 1: IF USER WANTS TO USE EXTERNAL SOUND CARD, USER MUST RUN BIOS PROGRAM TO DISABLE "Onchip Sound" OPTION IN THE "Chipset Feature Setup" AND "Onboard Legacy Audio" OPTION IN THE "Integrated Pheripherals".

NOTE 2: UNDER WINDOWS 95, USER MUST INSTALL DirectX AND USBSUPP.EXE FOR AGP ENVIRONMENT.

NOTE 3: "VIA Patch Code", "VIA AGP VxD Driver" & "VIA PCI IRQ Routing Miniport" installation, please refer to Appendix B.

MAGIC-PRO MP-6VIP-D

This VIA 82C693A chipset 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 (2A6LGSNC)
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 F10 : Save & Exit Setup	↑ ↓ → ← : Select Item (Shift)F2 : Change Color

3. Using the arrows on your keyboard, select an option, and press <Enter>. Modify the system parameter 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.
2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

ROM PCI/ISA BIOS (2A69KSNH)
STANDARD CMOS SETUP
AWARD SOFTWARE, INC.

Date (mm:dd:yy) : Tue, Oct 19 1999	
Time (hh:mm:ss) : 15 : 6 : 26	
HARD DISK	TYPE SIZE CYLS HEAD PRECOMP LANDZ SECTOR MODE
<hr/>	
Primary Master	: Auto 0M 0 0 0 0 0 AUTO
Primary Slave	: Auto 0M 0 0 0 0 0 AUTO
Secondary Master	: Auto 0M 0 0 0 0 0 AUTO
Secondary Slave	: Auto 0M 0 0 0 0 0 AUTO
Drive A	: 1.44, 3.5 in.
Drive B	: None
Video	: EGA/VGA
Halt On	: All Errors
Base Memory : 640K Extended Memory : 64512K Other Memory : 384K	
<hr/>	
Total Memory : 65536K	
Esc : Quit	↑ ↓ → ← : Select Item
F1 : Help	(Shift) F2 : Change Color
PU/PD/+/- : Modify	

Date (mm:dd:yy) Time (hh:mm:ss)	Set the current date and time.
Primary (Secondary) Master / Slave	This field records the specification 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 the field to the type(s) of Floppy Disk drive(s) installed in your system. The choice: 360KB, 5.25in. 1.2MB, 5.25in. 720KB, 3.5in. 1.44MB, 3.5in. 2.88MB, 3.5in.
Video	Set the field to the type of video display card installed in your system. The choice: Monochrome, Color 40x25, EGA / VGA, (default) Color 80x25
Halt On	Set this warning feature for the type of errors that will cause the system to halt. The choice: All Errors, (defaults) No Errors, All But Keyboard, All But Diskette, All But Disk / Key

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

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 (2A6LGSNC)
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
Processor Number Feature	: Disabled	D4000-D7FFF Shadow	: Disabled
Quick Power On Self Test	: Enabled	D8000-DBFFF Shadow	: Disabled
Boot Sequence	: A,C,SCSI	DC000-DFFFF Shadow	: Disabled
Swap Floppy Drive	: 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		
Typematic Rate Setting	: Disabled		
Typematic Rate (Chars/Sec)	: 6		
Typematic Delay (Msec)	: 250	ESC : Quit	↑ ↓ → ← : Select Item
Security Option	: Setup	F1 : Help	PU/PD/+/- : Modify
PCI/VGA Palette Snoop	: Disabled	F5 : Old Value	(Shift)F2 : Color
OS Select For DRAM > 64MB	: Non-OS2	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. An explanation of the <F>keys follows:

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

<Shift> + <F2>: Change BIOS screen color.

<F5>: Get the previous values. These values are the values with 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.

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 user to enable or disable the CPU internal cache.

External Cache Choose Enabled (default) or Disabled. This option allows user to enable or disable the external cache memory.

CPU L2 Cache ECC Checking Choose Enabled (default) or Disabled.

Processor Number Feature Choose Enabled or Disabled (default).

Quick Power On Self Test Choose Enabled (default) or Disabled. This option allows user to speed up the Power-On-Self-Test routine.

Boot Sequence Default is "A , C, SCSI". This option determines which drive to boot at first for an operating system.

Swap Floppy Drive Default is "A, C, SCSI". This option determines which drive to boot at first for an operating system.

Boot Up Floppy Seek	Enabled (default): During POST, BIOS checks the track number for Floppy Disk drive to see whether it's 40 or 80 tracks. Disabled: During POST, BIOS will not check the track number for Floppy Disk drive.
Boot Up NumLock Status	On (default): Activate the NumLock function at boot up. Off: Close the NumLock function at boot up.
IDE HDD Block Mode	Choose Enabled (default) or Disabled. If your hard disk is larger than 540MB, choose Enabled. If you are using IDE HDD AUTO DETECTION option, then BIOS will choose this option automatically. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">Note: Some older model HDDs do not provide this feature.</div>
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 (default).
Typematic Rate Setting	Choose Enabled or Disabled (default): Enable this option to adjust the deystroke repeat rate.
Typematic Rate (Char / 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 / AGP.
OS Select for DRAM > 64MB	Non-OS2 (default): For Non-OS/2 operating system. OS: For OS/2 operating system.
Video BIOS Shadow	Enabled (default): Map the VGA BIOS to system RAM. Disabled: Don't map the VGA BIOS to system RAM.
C8000-CBFFF to DC000-DFFFF Shadow	These options are used to shadow other expansion card ROMs.

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

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

ROM PCI/ISA BIOS (2A6LGSNC)
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 : Enabled	
Concurrent PCI/Host : Disabled	
System BIOS Cacheable : Disabled	
Video RAM Cacheable : Disabled	
AGP Aperture Size : 64M	
AGP-2X Mode : Disabled	
OnChip USB1 : Enabled	
OnChip USB2 : Enabled	
USB Keyboard Support : Disabled	
OnChip Sound : Enabled	
OnChip Modem : Disabled	
	ESC : Quit ↑ ↓ → ← : Select Item
	F1 : Help PU/PD/+/- : Modify
	F5 : Old Value (Shift)F2 : Color
	F7 : Load Setup Defaults

Bank 0/1 2/3 4/5 DRAM Timing	<hr/> <p>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</p>
SDRAM Cycle Length	<hr/> <p>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.</p>
DRAM CLOCK	<hr/> <p>The setting of this item must depend on the spec of PC100/PC133. For example, if user chooses HCLK + 33M, that means not only the motherboard but also the SDRAM needs to comply with PC-133 spec. Choice: Host CLK(default), HCLK-33M or HCLK+33M.</p>
Memory Hole	<hr/> <p>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.</p>
Read Around Write	<hr/> <p>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</p>
Concurrent PCI / Host	<hr/> <p>When disabled, CPU bus will be occupied during the entire PCI operation period. The choice: Enabled, Disabled</p>
System BIOS Cacheable	<hr/> <p>Choose Enabled or Disabled (default). When Enabled, the access to the system BIOS ROM addressed at F0000H-FFFFFH is cached.</p>

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 256MB. Memory map 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 user to enable / disable the AGP-2x (133MHz clock) mode.
OnChip USB1	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 (default), Disabled
OnChip USB2	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 (default), Disabled
USB Keyboard Support	Enabled: Enables function when the USB keyboard is being used. Disabled (default): When the AT keyboard is being used.
OnChip Sound	Enabled (default): Turn on AC'97 Codec chip controller. Disabled: Turn off AC'97 Codec chip controller. If user wants to use external sound card, this function must be disabled.
OnChip Modem	Enabled (default): Use MC99 feature. Disabled: Turn off MC99 feature. If user wants to use external modem, this function must be disabled.

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

POWER MANAGEMENT SETUP

Power Management Setup changes the system power savings function.

Run the Power Management Setup as follows:

1. Choose "POWER MANAGEMENT SETUP" from the Main Menu and a screen with a list of options will appear.
2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

ROM PCI/ISA BIOS (2A6LJSN9)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.

ACPI function : Disabled	Primary INTR : ON
Power Management : User Define	IRQ3 (COM 2) : Primary
PM Control by APM : Yes	IRQ4 (COM 1) : Primary
Video Off After : Suspend	IRQ5 (LPT 2) : Primary
Video Off Method : V/H SYNC+Blank	IRQ6 (Floppy Disk) : Primary
MODEM Use IRQ : 3	IRQ7 (LTP 1) : Primary
Soft-Off by PWRBTN : Instant-Off	IRQ8 (RTC Alarm) : Disabled
PWRON After PW-Fail : Former-Sts	IRQ9 (IRQ2 Redir) : Secondary
HDD Power Down : Disabled	IRQ10 (Reserved) : Secondary
Doze Mode : Disabled	IRQ11 (Reserved) : Secondary
Suspend Mode : Disabled	IRQ12 (PS/2 Mouse) : Primary
** PM Events **	IRQ13 (Coprprocessor) : Primary
VGA : OFF	IRQ14 (Hard Disk) : Primary
LPT & COM : LPT/COM	IRQ15 (Reserved) : Disabled
HDD & FDD : ON	
PCI Master : OFF	ESC : Quit ↑ ↓ → ← : Select Item
Modem Ring Resume : Disabled	F1 : Help PU/PD/+/- : Modify
RTC Alarm Resume : Disabled	F5 : Old Value (Shift)F2 : Color
	F7 : Load Setup Defaults

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 After	Choose NA, Suspend, Standby (default) or Doze.
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.
Modem Use IRQ	Assign the IRQ number to the modem which is being used so that the ring signal can wake up the system. The default setting is 3 (COM2).
Soft-Off By PWR-BTTN	Instant-Off (default): Turn off the system power at once after pushing the power button. Delay 4 Sec: Turn off the system power 4 seconds after pushing the power button (to meet PC97/98 spec)
PWRON After PW-Fail	Choose Off (default), On, Former Sts. Off: Disable Power Lost Resume function. On: Enable Power Lost Resume function. Former Sts.: Use former status.
	Note: This function must work with JP8.
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.

Doze Mode	This mode sets the CPU speed down to 33MHz.
Suspend Mode	The option allows you to choose the mode for the different timer. The Suspend mode turns off the CPU and saves the energy of the system.
VGA	When On of VGA, any activity from one of the listed system peripheral devices or IRQs wakes up the system. Choice: On(default), Off.
LPT & COM	When On of LPT&COM, any activity from one of the listed system peripheral devices or IRQs wakes up the system. Choice: LPT/COM(default), NONE, LPT or COM.
HDD & FDD	When On of HDD&FDD, any activity from one of the listed system peripheral devices wakes up the system. Choice: On(default), Off.
DMA / master	When On, any activity from one of the listed system peripheral devices wakes up the system. Choice: On, Off(default).
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.
RTC Alarm Rescume	When Enabled, you can set the date and time at the which the RTC(Real Time Clock) alarm awakens the system from suspend mode. Choice: Disabled(default), Enabled.

Primary INTR When set to On, any event occurring at will awaken a system which has been powered down.
On(default): The system can not enter the power saving mode when I/O ports or IRQ# is activated.
Off: The system still can enter the power saving mode when I/O ports or IRQ# is activated.

The following is a list of IRQ's(Interrupt ReQuests), which can be exempted much as the COM ports and LPT ports above can. When an I/O device wants to gain the attention of the operating system, it signals this by causing an IRQ to occur. When the operating system is ready to respond to the request, it interrupts itself and performs the service. When set On, activity will neither prevent the system from going into a power management mode nor awaken it.

- IRQ3 (COM2)**
- IRQ4 (COM1)**
- IRQ5 (LPT2)**
- IRQ6 (Floppy Disk)**
- IRQ7 (LPT1)**
- IRQ8 (RTC Alarm)**

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

PnP/PCI CONFIGURATION SETUP

PnP/PCI Configuration Setup defines PCI bus slots.

Run the PnP/PCI Configuration Setup as follows:

1. Choose "PnP/PCI CONFIGURATION SETUP" from the Main Menu and a screen with a list of options will appear.
2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

ROM PCI/ISA BIOS (2A6LGSNC)
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
	PCI Delay Transaction : Enabled
	PCI#2 Access #1 Retry : Disabled
	AGP Master 1 WS Write : Disabled
	AGP Master 1 WS Read : Disabled
	Assign IRQ For USB : Enabled
	Assign IRQ For VGA : Enabled
	ESC : Quit ↑ ↓ → ← : Select Item
	F1 : Help PU/PD/+/- : Modify
	F5 : Old Value (Shift)F2 : Color
	F7 : Load Setup Defaults

PNP OS Installed	Yes: OS supportsss 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 O.S.
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). Disable retains Enabled PnP configuration data in BIOS and resets the PnP configuration data in the BIOS.
CPU to PCI Write Buffer	Choose Enabled(default) or Disabled.
PCI Dynamic Bursting	Choose Enabled(default) or Disabled .
PCI Master 0 WS Write	Choose Enabled(default) or Disabled .
PCI Delay Transaction	Choose Enabled(default) or Disabled .
PCI #2 Access #1 Retry	Choose Enabled or Disabled(default).
AGP Master 1 WS Write	Choose Enabled(default) or Disabled.
AGP Master 1 WS Read	Choose Enabled or Disabled(default).

Assign IRQ for USB

Enabled (default): Add one IRQ to USB controller.
Disabled: Remove IRQ from USB controller. The system will have extra IRQ for other devices but the USB controller will still not be disabled (only IRQ was removed)

Assign IRQ for VGA

Enabled (default): 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 setting.

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

CPU Speed Setting option allows user to adjust CPU's settings and retain some informations inside computer when it is working.

Run the Integrated Peripherals as follows:

1. Choose "CPU SPEED SETTING" from the Main Menu and a screen with a list of options will appear.
2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

ROM PCI/ISA BIOS (2A6LGSNC)
CPU SPEED SETUP
AWARD SOFTWARE, INC.

Auto Detect DIMM/PCI Clk : Disabled Spread Spectrum : Disabled CPU Host Clock(CPU/PCI) : Default Current CPU Temp. : Current System Temp. : Current CPUFAN1 Speed : Current CPUFAN2 Speed : Vcore : 2.5V : 3.3V : 5V : 12V :	
	ESC : Quit ↑↓→← : Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Value (Shift)F2 : Color F7 : Load Setup Defaults

Auto Detect DIMM/PCI clk	Choose Disabled (default) or Enabled. The clock generator will turn off the DIMM clock if this slot is empty.
Spread Spectrum	Choose Disabled (default) or Enabled. This function is designed to EMI test only.
CPU Host Clock (CPU/ PCI)	Select the CPU Host Clock. The choice: default, 66/33MHz, 75/37MHz, 83/41MHz, 124/ 31MHz, 133/33MHz, 140/35MHz, 150/37MHz.
Current CPU Temp.	Shows temperature of the CPU.
Current System Temp.	Shows the temperature of the system.
Current CPUFAN1 Speed	Shows current speed of the FAN. The fan must provide rotary pulse. (Normally these types of fan have a three-wire connector.)
Current CPUFAN2 Speed	Shows current speed of the FAN. The fan must provide rotary pulse. (Normally these types of fan have a three-wire connector.)
Voltage	Shows power supply actual voltage value.

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

INTEGRATED PERIPHERALS

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

Run the Integrated Peripherals as follows:

1. Choose "INTEGRATED PERIPHERALS" from the Main Menu and a screen with a list of options will appear.
2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

ROM PCI/ISA BIOS (2A6LGSNC)
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.

<p>OnChip IDE Channel0 : Enabled OnChip IDE Channel1 : Enabled IDE Prefetch Mode : Enabled Primary Master PIO : Auto Primary Slave PIO : Auto Secondary Master PIO : Auto Secondary Slave PIO : Auto Primary Master UDMA : Auto Primary Slave UDMA : Auto Secondary MasterUDMA : Auto Secondary Slave UDMA : Auto Init Display First : PCI Slot</p>	<p>Onboard Parallel Port : 378/IRQ7 Onboard Parallel Mode : ECP/EPP ECP Mode Use DMA : 3 Onboard Legacy Audio : Enabled Sound Blaster : Disabled SB I/O base Address : 220H SB IRQ Select : IRQ 5 SB DMA Select : DMA 1 MPU-401 : Disabled MPU-401 I/O Address : 330H - 333H Game Port(200H - 207H) : Enabled</p>
<p>Onboard FDD Controller : Enabled Onboard Serial Port 1 : 3F8/IRQ4 Onboard Serial Port 2 : 2F8/IRQ3 UART 2 Mode : Standard IR Function Duplex : Half TX, RX inverting enable : No, Yes</p>	<p>ESC : Quit ↑ ↓ → ← : Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Value (Shift)F2 : Color F7 : Load Setup Defaults</p>

OnChip IDE Channel 0 / 1	The chipset contains a PCI IDE interface with support from two IDE channels. Select Enabled to activate the first and/or the second IDE interface. Select Disabled to deactivate an interface, if you install a primary and/or second add-on IDE interface. The choice: Enabled(default), Disabled.
IDE Prefetch Mode	Choose Enable(default), Disabled.
Primary Master/Slave PIO Secondary Master/Slave PIO	Choose Auto (default) or Mode 0~4. The BIOS will detect the HDD mode type automatically when you choose Auto. You need to set to a lower mode than Auto when your hard disk becomes unstable.
Primary Master/Slave UDMA Secondary Master/Slave UDMA	Enabled (default): Turn on the onboard IDE function. Disabled: Turn off the onboard IDE function.
Init Display First	This option allows you to decide to activate PCI Slot or AGP first. Choose PCI Slot(default), AGP.
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 Port1	Choose Auto (default), 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3 or Disabled. Don't set port 1 & 2 to the same value, except when setting at Disabled.
Onboard Serial Port2	Choose Auto (default), 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3 or Disabled.

UART 2 Mode	Choose Standard (default), HPSIR or ASKIR.
IR Function Duplex	The choice: Half (default), Full
TX, RX inverting enabled	Choose No, Yes (default) / No, No / Yes, No / Yes, Yes. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">Note: The above 2 options won't work unless UART2 Mode HPSIR/ASKIR is selected.</div>
Onboard Paralle Port	Choose the printer I/O address: 378H/IRQ7 (default), 3BCH/IRQ7, 278H/IRQ5 or Disabled.
Onboard Parallel Mode	Choose Normal (default), ECP/EPP, SPP 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. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">Note: This option will not be displayed unless the EPP/ECP is selected.</div>
EPP Mode Select	Choose EPP1.7 (default) or EPP1.9. EPP1.9 supports hardware handshake. This setting is dependent upon your EPP device. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">Note: The above 2 options will not be displayed unless the EPP/ECP is selected.</div>
Onboard Legacy Audio	The choice: Enabled (default), Disabled.

Sound Blaster	Choose Enabled or Disabled (default). For DOS mode compatibility, this option must be enabled. In Windows system, this option must be disabled.
SB I/O Base Address	Use default setting.
SB IRQ Select	Use default setting.
SB DMA Select	Use default setting.
MPU-401	Choose Enabled or Disabled (default). Some feedback type joystick must enable this option (ex: Sidewinder joystick).
MPU-401 I/O Address	Use default setting.
Game Port (200-207H)	Use default setting.

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

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" from the Main Menu and press <Enter>. The following message appears:

"Enter Password:"

2. The first time you run this option, enter your own password up to 8 characters and press <Enter>. The screen doesn't display the entered characters.
3. After you entered 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 back to default setting. You need to run the BIOS setup program and re-define all settings 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 selected 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 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.

APPENDIX A

FLASH MEMORY UPDATE INSTALLATION

1. Download BIOS files and flash utility from your board vendor. They are: awdfash.exe and .bin file.
2. Copy them to bootable diskette and boot from diskette.
3. The diskette cannot include memory manager e.g. emm386.exe, qemm and himem.sys, otherwise there will appear an error message "insufficient memory".
4. Type "awdfash filename(XXXX.bin)".
5. Next screen will ask you save current bios to file or not? Depend on your diskette capacity, choose Y or N for this option.
6. Then screen ask you programming the flash memory now? type Y for this option.
7. Programming finish, utility will ask you reboot system.
8. Reset system and press DEL key enter bios setup screen.
9. Select LOAD SETUP DEFAULTS, press ENTER, press Y, press F10, press Y
10. Finish update procedure.

