



SL-65MIE

USER MANUAL V1.2

NOTICE

Product Model	: SL-65MIE
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This Users' Guide & Technical Reference is to help system manufacturers and end-users set up and install the mainboard.

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ITEMLIST CHECKUP

- Mainboard
- Support CD
- User's Manual
- Bundled Bonus Pack CD
- Bundled Bonus Pack Manual
- Temperature Sensor Cable
- ATA66/100 IDE Cable
- RS232 Cable
- FDD Cable

CHAPTER 1 --- **INTRODUCTION**

- This chapter briefly introduces the characteristics of this mainboard. It includes the information regarding the chipset, CPU types, built-in functions and layout. Users will have more ideas about mainboards after reading this chapter.

THIS CHAPTER CONTAINS THE FOLLOWING TOPICS :

- 1-1 MAINBOARD SPECIFICATION**
- 1-2 MAINBOARD LAYOUT**
- 1-3 CHIPSET DIAGRAM**

1- 1 MAINBOARD SPECIFICATION

1-1-1 PROCESSOR

- Supporting Intel® FC-PGA Pentium !!!™ up to 1GHz.
- Supporting Intel® FC-PGA 370 Celeron & PPGA 370 Celeron up to 850MHz.
- Supporting VIA Cyrix !!! up to 800MHz.
- Supporting CPU voltage Auto-Detect circuit.

1-1-2 CHIPSET

- INTEL 82815 Graphics and Memory Controller Hub (GMCH) & INTEL 82801BA I/O Controller Hub (ICH2).
- ITE 8712 EC-LPC I/O chip.

1-1-3 INTEGRATED SDRAM CONTROLLER

- Provides 3pcs DIMM slots supporting double-sided DIMMs.
- Supporting 100/133MHz SDRAM spec.
- Supporting total memory from 32MB to 512MB using 32Mb/64Mb/128Mb/256Mb technology.
- Supporting up to 3 double sided DIMMs at 100MHz system memory bus.
- Supporting up to 2 double sided or 3 single sided DIMMs at 133MHz system memory bus.
- Unbuffered , Non-ECC SDRAM only supported.

1-1-4 FULL FEATURED ACCELERATED GRAPHICS PORTS (AGP) CONTROLLER

- Supporting 64-bit 66/ 100/ 133 MHz System Bus Frequency.
- Provides 1x/ 2x/ 4x AGP controller.
- Integrated 2D & 3D Graphics Engines.
- Integrated H/W Motion Compensation Engine.
- Integrated 24-bit 230 MHz DAC.
- Supporting 133MHz System Memory while running in non-CPC mode:
 - AGP v2.0 compliant.
 - Full 2D H/W Acceleration.
 - 2D Graphics up to 1600 x 1200 in 8-bit Color at 85 Hz Refresh.
 - H/W Motion Compensation Assistance for S/W MPEG2 Decode.
 - Integrated Graphics Memory Controller can be disabled to support an external AGP Card or PCI Graphics card.
 - Provided an AGP 4X Slot which is compatible for AGP 1X/2X/4X mode and AGP In-Line Memory Module (AIMM) up to 4 MB.

1-1-5 MULTI-I/O FUNCTION

- Integrated IDE Controller.
- Supporting Ultra ATA33/66/100, BMIDE and PIO modes.
- Two UARTs for complete Serial Ports.
- One dedicated IR connector:
 - Third serial port dedicated to IR function either through the two complete serial ports or the third dedicated port Infrared-IrDA (HPSIR) and ASK(Amplitude Shift Keyed) IR.
- Multi-mode parallel connector supporting:
 - Standard mode, ECP and EPP.
- Floppy Disk connector supporting:
 - Two FDDs with drive swap function.
- Universal Serial Bus connector supporting:
 - USB v1.1 and Intel Universal HCI v1.1 compatible.
 - 2 built-in USB connectors, in addition to one internal USB header which requires a USB cable to support 2 more optional USB ports.
- PS/2 keyboard connector.
- PS/2 Mouse connector.

1-1-6 EXPANSION SLOTS

- Three PCI bus Master slots.
- One AGP 4x mode slot.
- One CNR slot.
- Three DIMM slots.
- One SCR (Smart Card Reader) slot.

1-1-7 AWARD BIOS V6.0, SUPPORTING

- Plug & Play V1.0.
- Flash Memory for easy upgrade.
- Year 2000 compliant.
- BIOS writing protection.

1-1-8 SOUND CONTROLLER

- AC 97 Link for Audio and Telephony CODECs.
- AC 97 2.1 compliant.

1-1-9 POWER MANAGEMENT

- ACPI 1.0 compliant. (Advanced Configuration and Power Interface)
- APM V1.2 compliant. (legacy power management)
- Supporting ACPI suspend POS mode. (Power On Suspend)

- System event monitoring with two event classes
- Supporting PS/2 keyboard & Mouse power on
- Supporting Wake On LAN (WOL) & Wake On Modem
- Supporting real time clock (RTC) with date alarm, month alarm, and century field
- Supporting USB wake-up Function

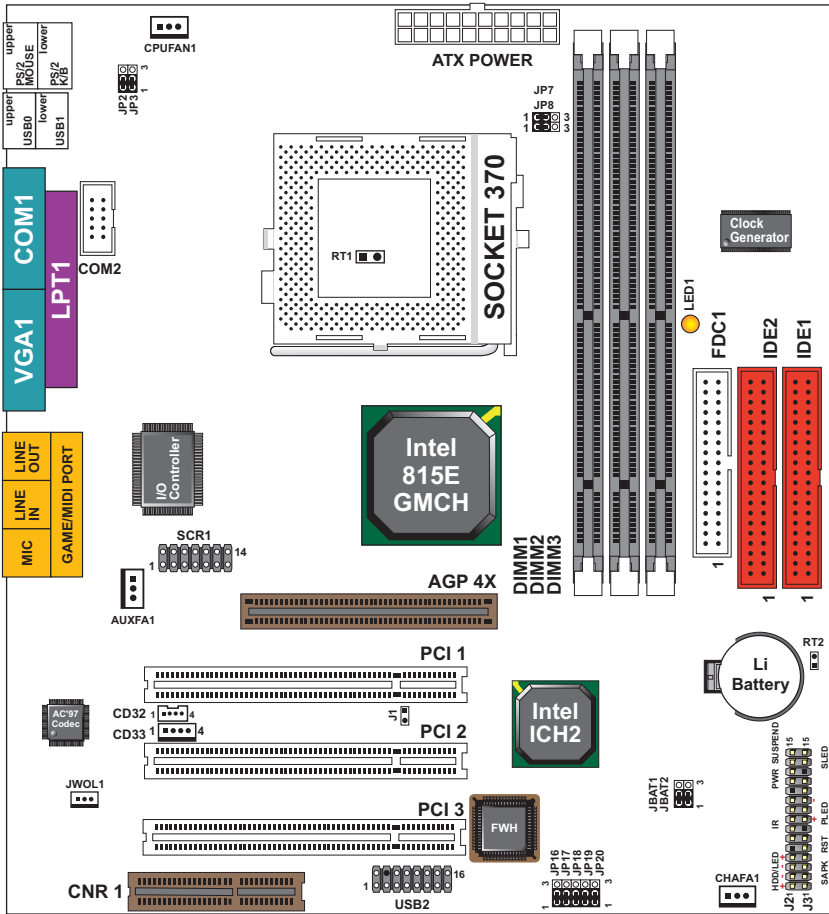
1-1-10 FORM FACTOR

- Micro ATX form factor, 4 layer PCB.
- Motherboard size: 20.0cm x 24.5cm

1-1-11 HARDWARE MONITORING

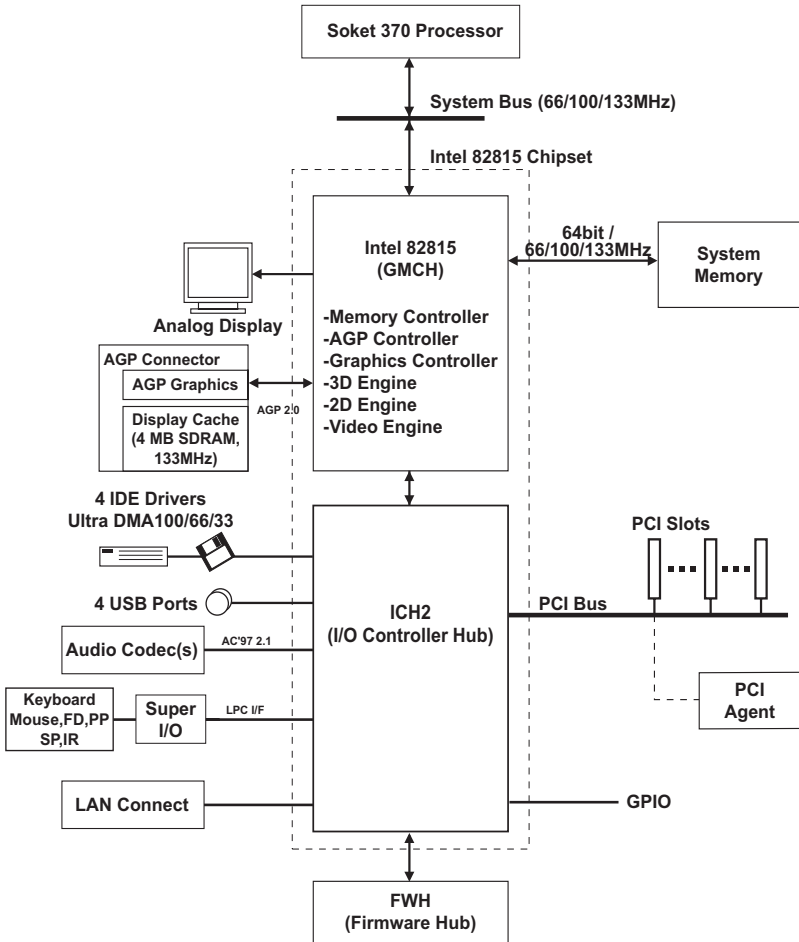
- Programmable control, status, to provide monitoring and alarm for flexible desktop management of hardware temperature. (software included in support CD)
- 8 positive voltages status monitoring.
- 3 fan speeds status monitoring.
- 2 temperature status monitoring.

1-2 MOTHERBOARD LAYOUT --- 65MIE

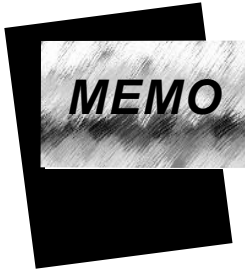


Using non-compliant memory with higher bus clock than default frequency (over clocking) may severely compromise the reliability of system.

1-3 CHIPSET SYSTEM BLOCK DIAGRAM



Intel 82815 GMCH Chipset Diagram



CHAPTER 2

HARDWARE SETUP

ATTENTION !!!

1. Please refer to your processor installation or other documentation attached with your CPU for more detailed installing instruction.
2. Installing a heat sink and cooling fan is necessary for proper heat dissipation from your CPU. Incorrect installation may result in overheating and damage of your CPU.
3. Before changing the setting of CPU Vcore from BIOS program, user SHOULD make sure of correct specification both of CPU CLOCK and RATIO. Incorrect setting may cause damage to your CPU.

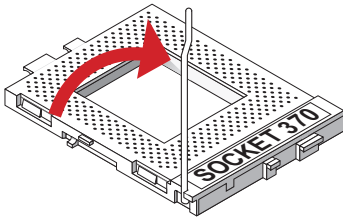
THIS CHAPTER CONTAINS THE FOLLOWING TOPICS :

- 2-1 CPU INSTALLATION
- 2-2 MEMORY INSTALLATION
- 2-3 SUPPORTED SYSTEM BUS AND SYSTEM MEMORY
BUS FREQUENCIES TABLE
- 2-4 HDD/FDD INSTALLATION
- 2-5 FOR DEVICE ON BOARD
- 2-6 CONNECTORS CONFIGURATION

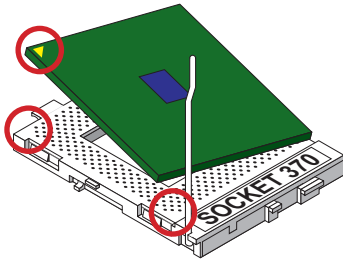
2- 1 CPU INSTALLATION

WARNING !!!

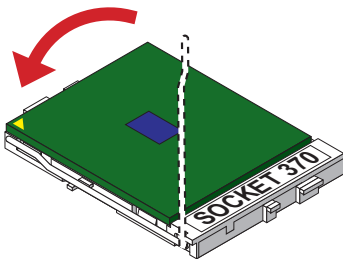
*Never run your processor without the heat sink properly and firmly attached.
PERMANENT DAMAGE WILL RESULT!*



- 1** • Pull out the lever from the socket, and then raise the lever up to a 90-degree angle.



- 2** • Take notice of the red circles as shown below. While inserting the CPU into the socket, you can find out there is a definite pin orientation for CPU and socket.



- 3** • Make sure that the CPU is placed into the socket tightly. Then lower down the lever to complete the CPU installation.

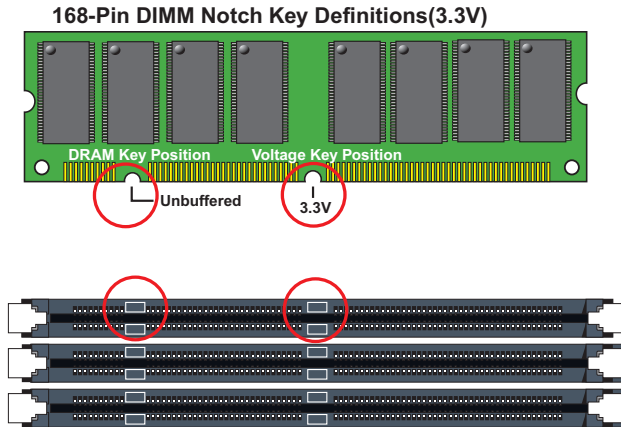
2- 2 MEMORY INSTALLATION

WARNING !!!

- Make sure that you unplug your power supply when adding or removing memory modules or other system components, failure to do so may cause severe damage to both your mainboard and expansion cards.
- Be careful when inserting or removing DIMM, forcing a DIMM in or out of a socket can be damaged the memory module or the socket. Some of DIMMs contain EDO or FTP DRAM that accept only 5V power. These DIMM types are incompatible with the mainboard, the M/B only supports 3.3V true SDRAM DIMMs.

Installing DIMM

- Make sure you have the correct memory module type for your mainboard.
- Insert the module(s) as shown below, DIMMs have 168-pins and two notches that will be matched by the onboard DIMM socket. Memory modules are installed by inserting them straight into the slot until they “click” in the right place. They only fit in one direction, so do not force them in by a wrong direction.



Removing DIMM

- Press down the holding clips on both sides of a DIMM socket and the module will be released from it.

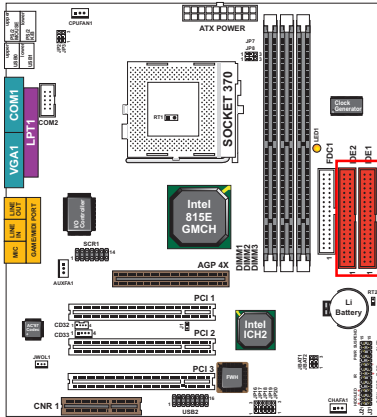
2-3 SUPPORTED SYSTEM BUS AND SYSTEM MEMORY BUS FREQUENCIES TABLE

- The 82815E GMCH has a new type of clocking architecture. It has integrated SDRAM buffers that run at either 100 or 133 MHz, independent of the system bus frequency. See table below for supported system bus and system memory bus frequencies.

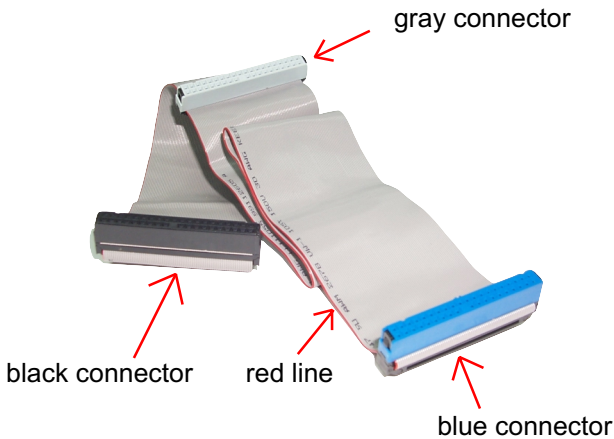
Front Side Bus Frequency	System Memory Bus Frequency	AGP Bus Frequency	PCI Bus Frequency	Supported Maximum DIMM numbers
66MHz	100MHz	66MHz	33MHz	3single sides DIMMs
100MHz	100MHz	66MHz	33MHz	3single sides DIMMs
133MHz	100MHz	66MHz	33MHz	2 doubled sides or 3 single sides DIMMs
133MHz	133MHz	66MHz	33MHz	2 doubled sides or 3 single sides DIMMs

2- 4 HDD/FDD INSTALLATION

- To install HDD (Hard Disk Drive), you may connect the cable's blue connector to the mainboard's primary (IDE1) or secondary IDE connector, and then connect the gray connector to your slave device and the black connector to your master device. If you install two hard disks , you must configure the second drive to Slave mode by setting its jumper accordingly. Please refer to your hard disk documentation for the jumper settings.

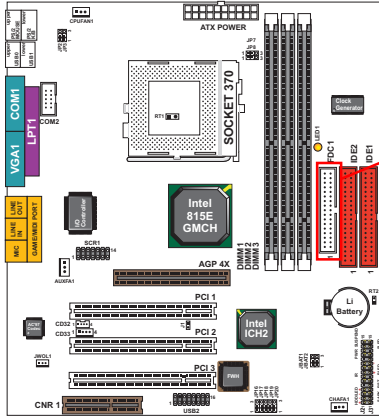


Hard Disk Drive Connector:
Orient the red line on the IDE ribbon cable to Pin1.

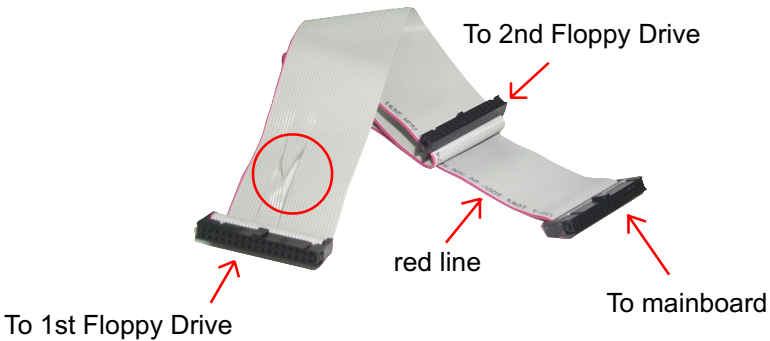


IDE Cable

- To install FDD (Floppy Disk Drive), connect the end with single connector to the mainboard, and connect other end with two connectors to the floppy drives.



Floppy Disk Drive Connector:
Orient the red line on the floppy ribbon cable to Pin 1.



FDD Cable

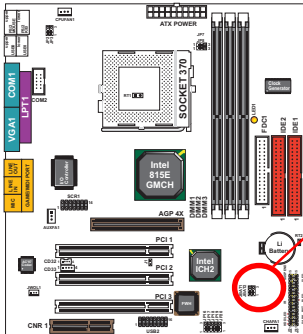
2- 5 JUMPER SETTING FOR DEVICES ON BOARD:

- The following diagrams show the location for jumper blocks on the mainboard.

CAUTION

- Do not remove the jumper when power is on. Always make sure the power is off before changing any jumpers. Otherwise, mainboard could be damaged.
- All jumper pins with block marks are closed pins.

2-5-1 JUMPER JBAT1/2 FOR CLEARING CMOS DATA:



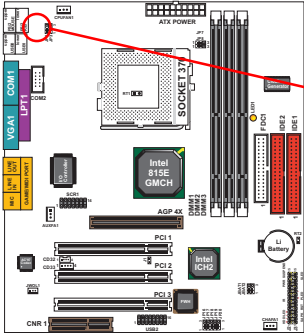
Jumper JBAT1/2 for Clearing CMOS Data

Clear CMOS Data	JBAT1 JBAT2	3 1	3 1
Retain Data (default)	JBAT1 JBAT2	3 1	3 1



A battery should be used to supply the power for the CMOS RAM to retain mainboard configuration.

NOTE : You can clear CMOS by setting pin 2-3 closed when the system is POWER OFF. Then, return to pin 1-2 closed position (default). You may damage the mainboard if clearing the CMOS with POWER ON . Unplugging the power cord from power supply before clearing CMOS will be the safest bet for user.

2-5-2 KEYBOARD POWER ON (JP2)

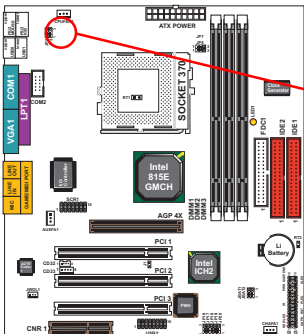


Keyboard Power On (JP2)



Disabled (default)	JP2	
Enabled	JP2	

When keyboard power on function shows any compatible problem, choose disabled and report the keyboard model to the board maker.
 Keyboard power on function must be set from the BIOS .Refer to the “Integrated Peripherals” section.

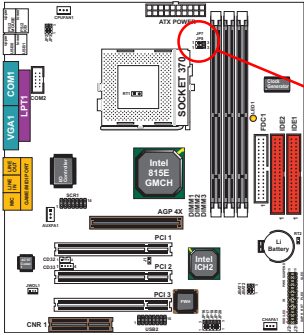
2-5-3 USB WAKE UP (JP3)









USB Wake up (JP3)

Disabled (default)	JP3	
Enabled	JP3	

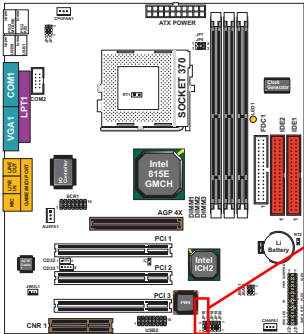
2-5-4 BUS CLOCK SELECT (JP7/JP8)





Bus Clock Select (JP7/JP8)

66MHz / 100MHz / 133MHz Auto Select (default)	JP7  JP8 
100MHz	JP7  JP8 
133MHz	JP7  JP8 

2-5-5 BIOS BOOT BLOCK LOCK (JP16)

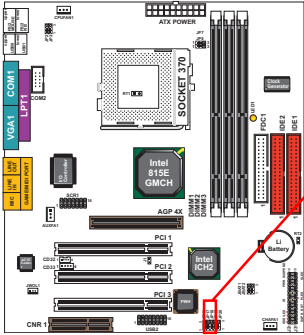


BIOS Boot Block Lock (JP16)

Locked	JP16 
Unlocked (default)	JP16 

IMPORTANT NOTE : When upgrading new BIOS version for 65MIE, the “BIOS Boot Block” must be unlocked.

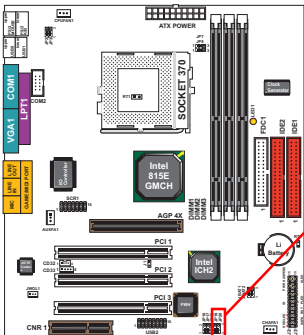
2-5-6 USB PORT SELECT (JP17/JP18)



USB Port Select (JP17/JP18)

Redirect USB port 0 to USB1 connector (default)	JP17	JP18	3	3
	1	1	1	1
Redirect USB port 0 to CNR port	JP17	JP18	3	3
	1	1	1	1

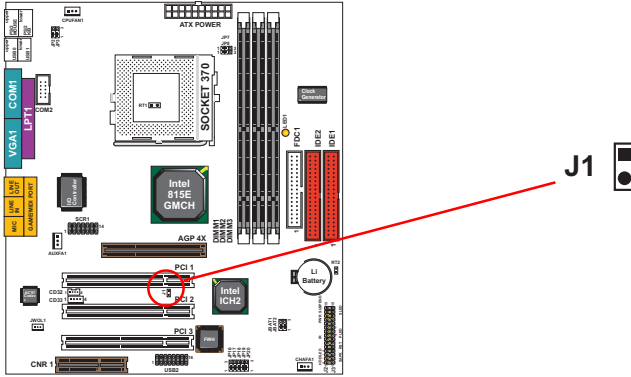
2-5-7 USB PORT SELECT (JP19/JP20)



USB Port Select (JP19/JP20)

Redirect USB port 1 to USB1 connector (default)	JP19	JP20	3	3
	1	1	1	1
Redirect USB port 1 to AGP slot	JP19	JP20	3	3
	1	1	1	1

2-5-8 FACTORY DEFAULT (J1)

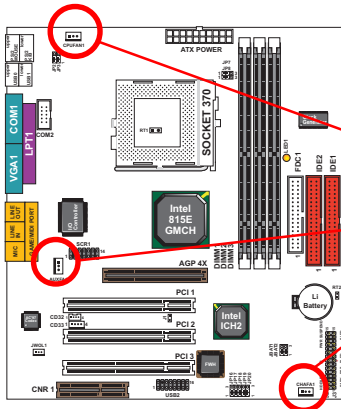


This jumper is only for factory test.




2-6 CONNECTORS CONFIGURATIONS

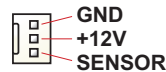
- This section lists out all connectors configurations for users' reference:

2-6-1 ONBOARD FAN CONNECTOR (CPUFA1/AUXFA1/CHAFA1)



Onboard FAN Connector (CPUFA1/AUXFA1/CHAFA1)

CPU FAN	CPUFA1	
SYSTEM FAN	AUXFA1	
CHASSIS FAN	CHAFA1	

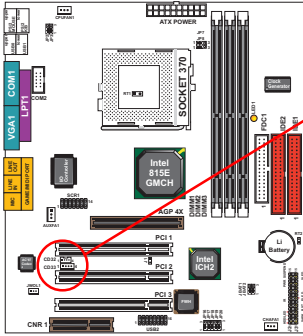


These connectors support CPU/System cooling fan with +12V. When connecting wire to FAN connectors, users should pay attention that the red wire is for the positive current and should be connected to pin +12V, and the black wire is Ground and should be connected to pin GND. If your mainboard has Hardware Monitor chipset on-board, you must use a specially designed fan with speed sensor to take advantage of this function.

For fans with speed sensors, the rotation of the fan blades will send out 2 electric pulses, by which system Hardware Monitor will work out the fan rotation speed.

NOTE 1 : Always consult vendor for proper CPU cooling fan.
NOTE 2 : CPU FAN supports the FAN control. You can install PC Alert utility. This will automatically control the CPU FAN speed according to the actual CPU temperature.

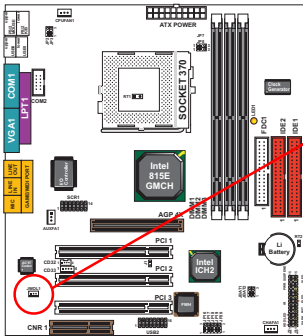
2-6-2 CD-ROM AUDIO CONNECTOR (CD32/CD33)



CD-ROM Audio Connector (CD32/
CD33)

PIN NO.	CD32	CD33
PIN 1	GND	Left Channel
PIN 2	Left Channel	GND
PIN 3	GND	GND
PIN 4	Right Channel	Right Channel

2-6-3 WAKE ON LAN FUNCTION (JWOL1)



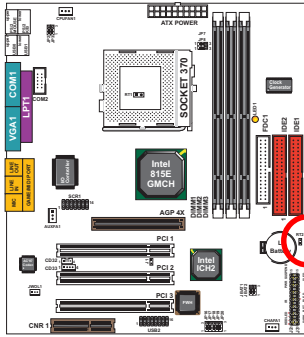
Wake On Lan Function (JWOL1)

Connect the Wake On LAN signal from LAN card to JWOL1	JWOL1 
---	---

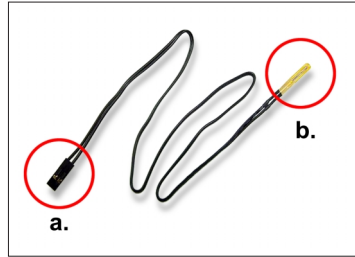
This connector connects to a LAN card with a Wake On LAN output. The connector powers up the system when a wake-up packet or signal is received through the LAN card.

This feature requires that Wake On LAN feature is enabled in the BIOS setting called "Power Management Setup" and that your system must have an ATX power supply with at least **720mA / +5V standby** power.

2-6-4 THERMAL SENSOR CONNECTOR (RT2)



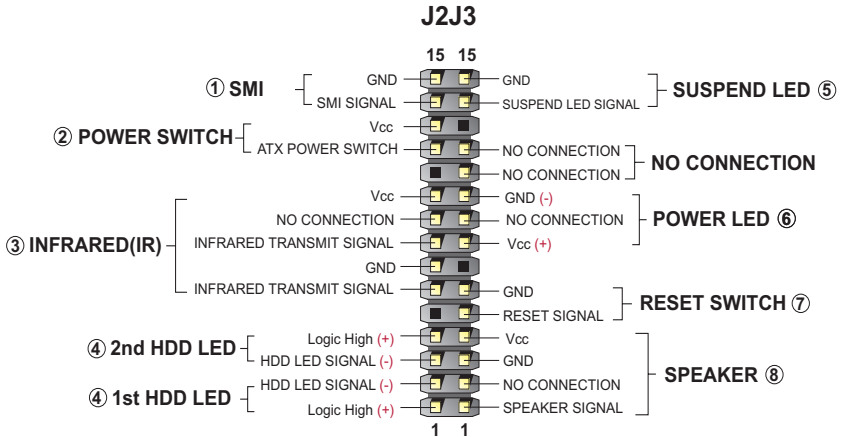
Thermal Sensor Connector (RT2)



We provide a thermal cable in the mainboard package. This thermal cable is to monitor device which will generate a lot of heat, such as HDD, graphics card etc.. Please connect one end of the thermal cable (A) to mainboard RT2 header, and tape the other end of thermal cable (B) on to the device which you want to monitor. After you finish the thermal cable installation, you will see the detected temperature in BIOS setup or Hardware monitor utility.

2-6-5 COMPLEX HEADER J2&J3

- This complex Header consists of 9 connectors providing various supports:



1. J2 SMI Connector (System Management Interrupt):

CONNECTION: This 2-pin connector is connected to the case-mounted Suspend Switch or to the “Turbo Switch”.

FUNCTION: Manually placing the system into a Suspend mode or “Green” mode.

2. J2 Power Switch Connector:

CONNECTION: Connected to a momentary button or switch.

FUNCTION: Manually switching the system between “On” and “Soft Off”. Pressing the momentary button for more than 4 seconds will also turn the system off.

3. J2 IR Connector (Infrared Connector):

CONNECTION: Connected to Connector IR on board.

FUNCTION: Supporting wireless transmitting and receiving module on board.

4. J2 1st HDD LED/J2 2nd HDD LED:

CONNECTION: Connected to HDD LED.

FUNCTION: To supply power to HDD LED.

5. J3 Suspend LED Connector:

CONNECTION: Connected to Suspend indicator.

FUNCTION: To supply power to “Suspend indicator”.

6. J3 Power LED Connector:

CONNECTION: Connected to System Power LED.

FUNCTION: To supply power to “System Power LED”.

7. J3 Reset Switch Connector:

CONNECTION: Connected to the case-mounted “Reset Switch”.

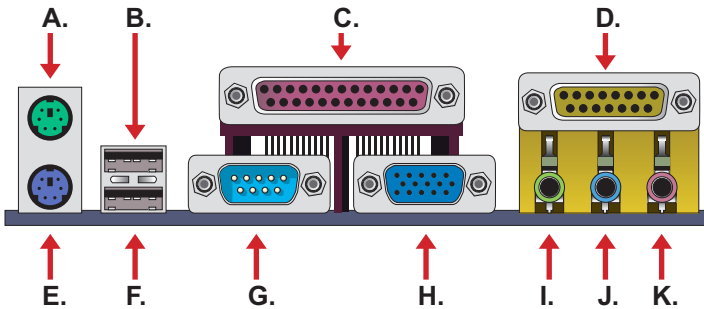
FUNCTION: To supply power to “Reset Switch” and support system re-boot function.

8. J3 Speaker Connector:

CONNECTION: Connected to the case-mounted Speaker.

FUNCTION: To supply power to the case-mounted Speaker.

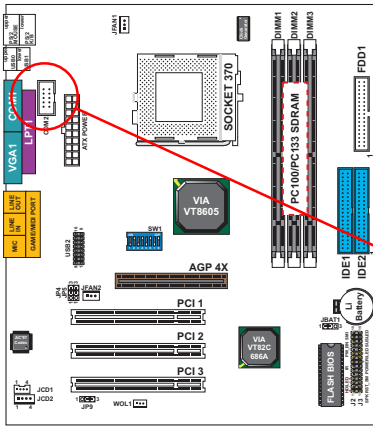
2-6-6 CHASSIS PANEL CONNECTOR



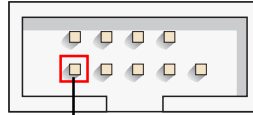
- A : PS/2 MOUSE PORT
- B : USB 0 PORT
- C : LPT1 PORT
- D : GAME/MIDI PORT
- E : PS/2 KEYBOARD PORT
- F : USB 1 PORT
- G : COM1 PORT
- H : VGA PORT
- I : LINE / SPEAKER OUT
- J : LINE IN
- K : MICROPHONE

2-6-7 SERIAL PORT CONNECTORS

- One serial port is ready for a mouse or other serial devices. A second serial port is available using a serial port bracket connected from the motherboard to an expansion slot opening.

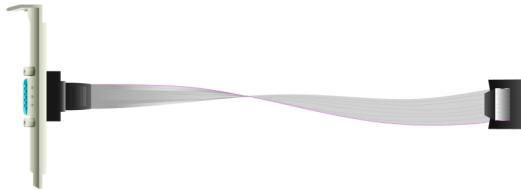


COM2



PIN1

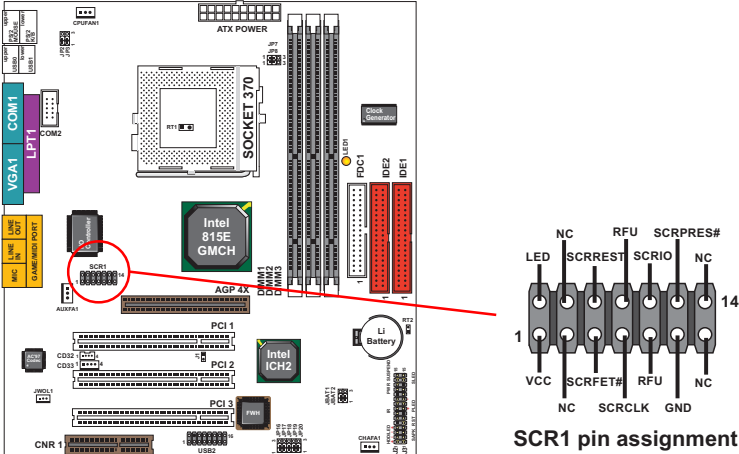
Serial Port Connector:
Orient the red line on the serial ribbon cable to PIN1.



RS232 SERIAL CABLE

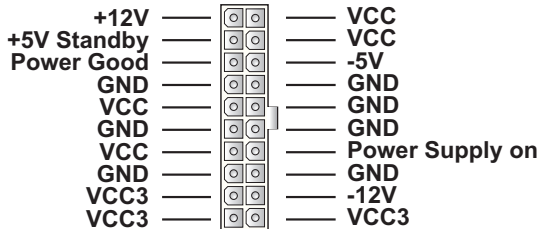
2-6-8 SMART CARD READER CONNECTOR (SCR1)

- The connector “SCR1” allows you to use Smart Card Reader. It compliant with Personal Computer Smart Card (PC/SC) working group standard and smart card (ISO 7816) protocols.



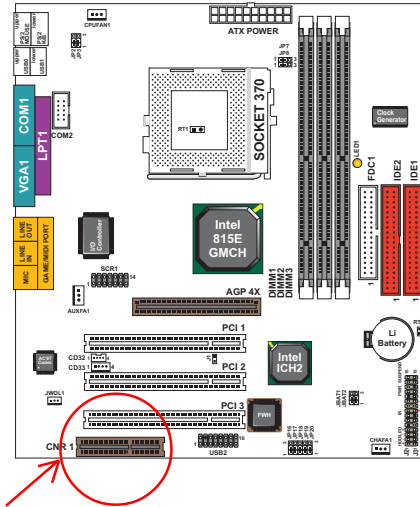
2-6-9 ATX POWER SUPPLY CONNECTOR

- This connector is connected to an ATX power supply by a plug from the power supply. The plug can only be inserted in a specific orientation because of the different hole sizes. Find the proper orientation and push down the plug firmly to make sure that all pins are aligned.
- Your power supply should support at least 10mA on the 5V standby voltage. There may be difficulty to turn on the system power if the power supply does not support the load.
- **For Wake On LAN function, the power supply should support at least 720mA current.**



2-6-10 COMMUNICATION AND NETWORKING RISER SLOT (CNR)

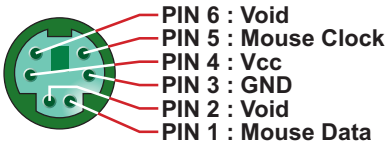
- This connector allows you to use network, modem or audio riser cards.



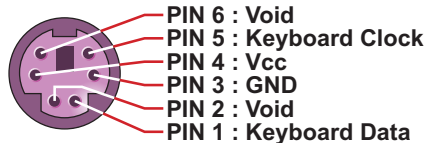
NOTE:

1. If only one modem CNR installed, the modem CNR must be primary.
2. Only one LAN CNR can be supported.
3. The audio CNR must be secondary, if on-chip AC 97 is enabled.
4. CNR devices are not included with this motherboard.

2-6-11 PS/2 MOUSE AND PS/2 KEYBOARD



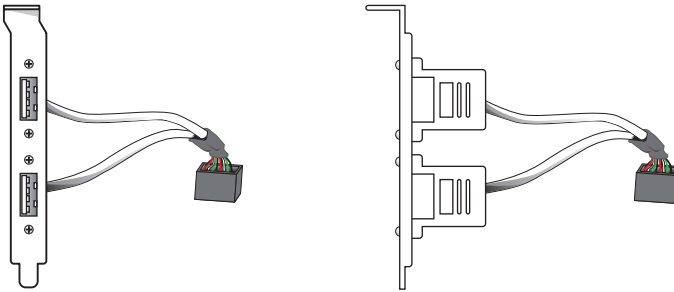
PS/2 MOUSE



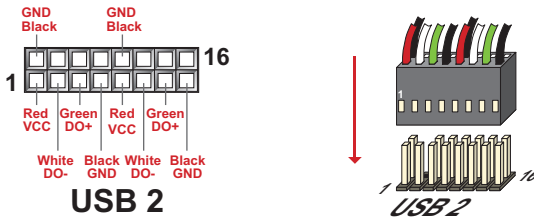
PS/2 KEYBOARD

2-6-12 SECOND USB HEADER (USB2)

- This header is for the additional USB cable to provide you two additional USB ports. Users can order the additional USB cable from your mainboard dealers or vendors.



Additional USB Cable (Optional)



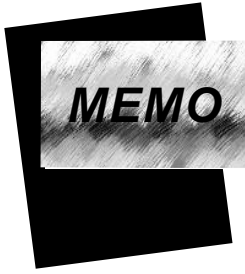
USB2 HEADER

- When plugging the USB cable to USB2 header, users must make sure the red wire is connected to the first pin.

2-6-13 IRQs DESCRIPTION FOR VARIOUS DEVICES

IRQ	Function Description	Priority
IRQ 0	System Timer	1
IRQ 1	Keyboard Controller	2
IRQ 2	Programmable Interrupt	N/A
IRQ 3	Serial Port (COM 2)	11
IRQ 4	Serial Port (COM 1)	12
IRQ 5	Free	13
IRQ 6	Floppy Disk Controller	14
IRQ 7	Parallel Port (LPT1)	15
IRQ 8	Real Time Clock (RTC)	3
IRQ 9	Free	4
IRQ 10	Free	5
IRQ 11	Free	6
IRQ 12	PS/2 Mouse Port	7
IRQ 13	Coprocessor	8
IRQ 14	Primary IDE Channel	9
IRQ 15	Secondary IDE Channel	10

- Both ISA and PCI expansion cards require IRQs. System IRQs are available to cards installed in the ISA expansion bus first and then any remaining IRQs are available to PCI cards. Currently, there are two types of ISA cards.
- The original ISA expansion card design, now referred to as “Legacy” ISA card, requires you to configure the card’s jumpers manually and then install it in any available slot on the ISA bus. To see a map of your used and free IRQs in Windows 98, please click the *My Computer* → *Control Panel* → *system*, in which you can see the *Device Manager* tab. Double click on a specific hardware device to display the *Resources* tab which shows the Interrupt number and address. Double-Clicking the first option *Computers* of the *Device Manager* screen to see all the interrupts and addresses for your system. Make sure that ISA devices should not share IRQ with other devices; otherwise your computer will get into trouble when those two devices are used at the same time.



CHAPTER 3

SOFTWARE SETUP

ABOUT SUPPORT CD

- In Support CD, it contains most information for users' requirement, such as Acrobat Reader, BIOS, Users' full version Manual, Driver, Hardware Monitor (if motherboard supports this function), Patch, and Utilities etc., User can browse the CD and get further details in regard of our motherboard. Of course, welcome to vendor's website for latest release.

THIS CHAPTER CONTAINS THE FOLLOWING TOPICS :

- 3-1 INTEL CHIPSET DRIVER INSTALLATION
- 3-2 INTEL ULTRA ATA STORAGE DRIVER INSTALLATION
- 3-3 AC'97 AUDIO CODEC INSTALLATION
- 3-4 INSTALLING ITE HARDWARE MONITOR UTILITY
(SMARTGUARDIAM)

3-1 INTEL CHIPSET DRIVER INSTALLATION

1 • Please put the Support CD into the CD-ROM drive.

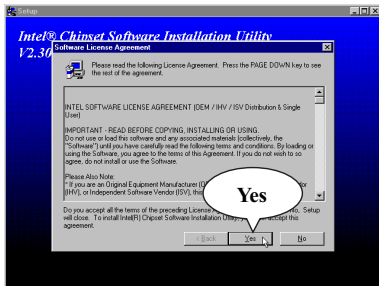
2 • When a welcome window appears on the screen, choose “Install Driver”.

3 • Click on the “INTEL Chipsets Driver”.

4 • Click on the “INF Utility for All INTEL Chipsets”.



5 • Press **Next** button to continue.



6 • Press “Yes” to accept Software License Agreement.



7 • After all the setup process is finished, please restart your computer by clicking on Finish.

3-2 INTELL ULTRA ATA STORAGE DRIVER INSTALLATION

1

• Please put the Support CD into the CD-ROM drive.

2

• When a welcome window appears on the screen, choose “Install Driver”.

3

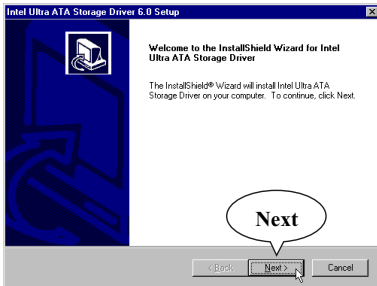
• Click on the “INTEL Driver”.

4

• Click on the “INTEL 815EP Chipsets”.

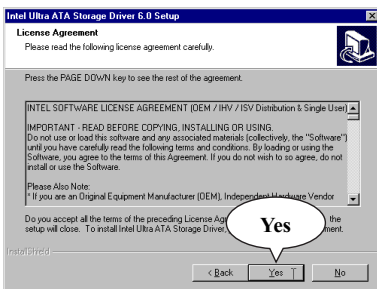
5

• Click on the “INTEL ATA 66/100 Driver”.



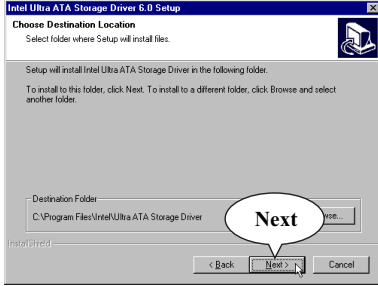
6

• Press “Next” button to continue.

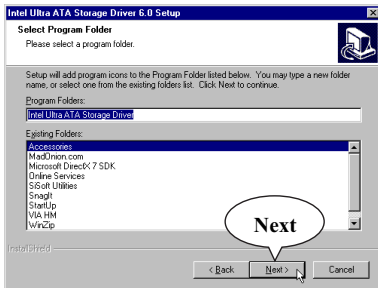


7

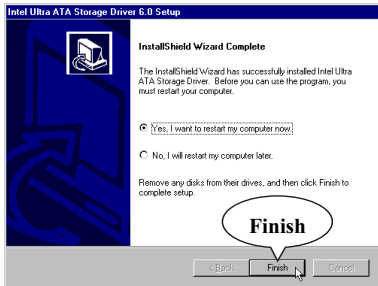
• Press “Yes” to continue.



8 • Press “Next” to continue.



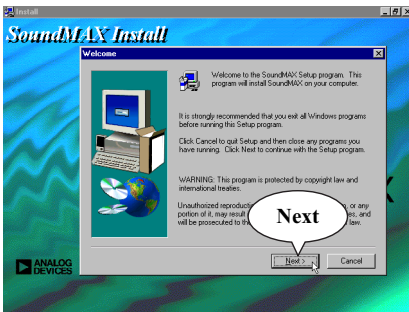
9 • Press “Next” to continue.



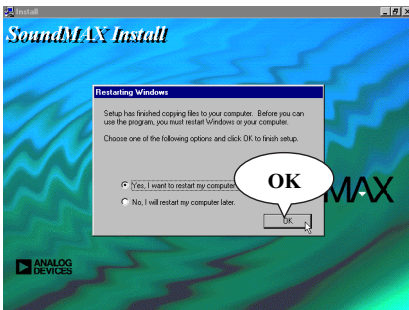
10 • After all the setup process is finished, please restart your computer by clicking on Finish.

3-3 AC'97 DRIVER INSTALLATION

- 1 • Please put the Support CD into the CD-ROM drive.
- 2 • When a welcome window appears on the screen, choose **“Install Driver”**.
- 3 • Click on the **“INTEL Driver”**.
- 4 • Click on the **“INTEL 815EP Chipsets”**.
- 5 • Click on the **“AC'97 Driver”**.
- 6 • The next screen will appear for user to select which AC'97 driver you need to install depending on what operation system you are using.
• Supposing that your system is Windows 98SE/ ME/ Win2000, then click on the **“Install AC'97 Driver for Win98SE/ME/Win2000”**.



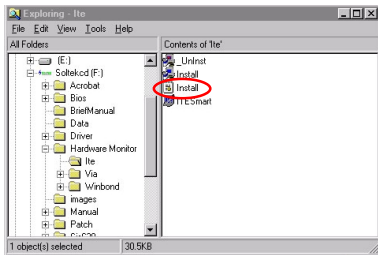
- 7 • Press **“Next”** to continue.



- 8 • After all the setup process is finished, please restart your computer by clicking on **Finish**.

3-4 INSTALLING ITE HARDWARE MONITOR UTILITY (SMARTGUARDIAM)

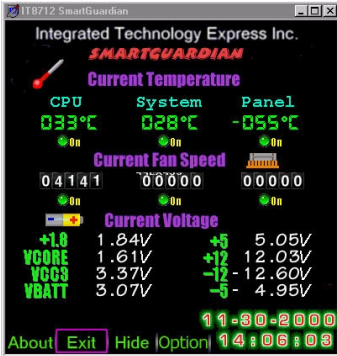
- 1** • Please put the Support CD into the CD-ROM drive.
- 2** • When a welcome window appears on the screen, choose “Install Driver”.
- 3** • Click on the “INTEL Driver”.
- 4** • Click on the “INTEL 815EP Chipsets”.
- 5** • Click on the “Hardware monitor utility”.
- 6** • Click on the “Explore CD” or user can install it through directory CD-ROM \ hardwaremonitor utility\ ITE\ install exe.



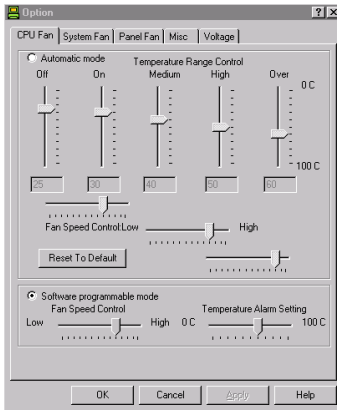
- 7** • When “Exploring-ITE” window appears, please click on the file “install”.

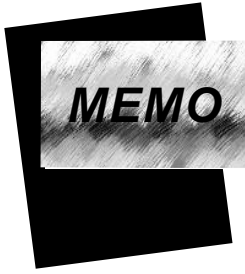


- 8** • Then Follow the instruction on screen to complete the installation.



This screen shows the ITE SMARTGUARDIAM, it shows the information about system temperatures, voltages and Fan speed. You can also change some Value settings to for your system to optimize its performance.





CHAPTER 4

BIOS SETUP

THE BIOS

- BIOS stands for Basic Input and Output System. It is sometimes called ROM BIOS because it is stored in a Read-Only Memory (ROM) chip on the mainboard. BIOS is the first program to run when you turn on your computer.
- BIOS performs the following functions:
 1. Initializing and testing hardware in your computer (a process called “POST”, for Power On Self Test).
 2. Loading and running your operating system.
 3. Helping your operating system and application programs to manage your PC hardware by means of a set of routines called BIOS Run-Time Service.

THIS CHAPTER CONTAINS THE FOLLOWING TOPICS :

- 4-1 WHAT IS BIOS SETUP
- 4-2 HOW TO RUN BIOS SETUP
- 4-3 WHAT IS CMOS
- 4-4 WHAT IS POST
- 4-5 BIOS UPGRADE
- 4-6 BIOS SETUP

4-1 WHAT IS BIOS SETUP

- BIOS Setup is an interactive BIOS program that you need to run when:
 1. Changing the hardware of your system. (for example: installing a new Hard Disk etc..)
 2. Modifying the behavior of your computer. (for example: changing the system time or date, or turning special features on or off etc..)
 3. Enhancing your computer's behavior. (for example: speeding up performance by turning on shadowing or cache)

4-2 HOW TO RUN BIOS SETUP

- To access BIOS setup menu, press < DEL > key after "POST", and before the OS is loaded. The BIOS usually display the following message:

Press DEL to enter SETUP

4-3 WHAT IS CMOS

- CMOS is the memory maintained by a battery. The BIOS uses CMOS to store the settings you have selected in SETUP. The CMOS also maintains the internal clock. Every time you turn on your computer, the BIOS Looks into CMOS for the settings you have selected and configures your computer accordingly. If the battery is out of power, the CMOS data will be lost and POST will issue a "CMOS invalid" or "CMOS checksum invalid" message. If this happens, you have to replace the battery and do some proper settings in SETUP.

4-4 WHAT IS POST

- POST is an acronym for Power On Self Test. POST will test all things that the BIOS does before the operating system is started. Each of POST routines is assigned a POST code, a unique number which is sent to I/O port 080h before the routine is executed.

4-5 BIOS UPGRADE

- System BIOS is incorporated into a Flash memory component of the mainboard. Flash BIOS allows user to upgrade BIOS without the need to

replace an EPROM component.

- The upgrade utility can be loaded on a floppy diskette and used to provide the capability to save, verify, and update the system BIOS. The upgrade utility can also be run from a hard disk drive or a network drive.

4-5-1 BEFORE UPGRADING BIOS

- It is highly recommended that you save a copy of the original mainboard BIOS along with a Flash EPROM Programming utility (AWDFLASH.EXE) to a bootable floppy disk in case you need to reinstall the BIOS later.

4-5-2 UPGRADE PROCESS

NOTE: Normally, to upgrade BIOS is unnecessary if the system is working fine without any problem. Users should not upgrade the BIOS unless you experience incompatible problems or need to create new features. However, please read all information in this section before upgrading.

“AWDFLASH.EXE” is a Flash EPROM Programming utility that updates the BIOS by uploading a new BIOS file to the programmable flash ROM on the mainboard. This program works in **DOS environment only, the utility can not be executed in win95/98, ME, NT or WINDOWS 2000 environment.**

Upgrading the system BIOS

- Step 1. Please visit the board maker's website, download latest BIOS file and award flash utility “AWDFLASH.EXE”. The BIOS file format will be *.bin, of which “*” stands for the specific file name.
- Step 2. Create a bootable diskette. Then copy the BIOS file and award flash utility “AWDFLASH.EXE” into the diskette.
- Step 3. Insert the diskette into drive A, reboot your system and boot from the diskette.
- Step 4. Type **awdf flash *.bin /sn/py/cc** and then press <Enter> to run BIOS upgrade program. (*.bin depends on your mainboard model and version code. Instead of typing “*”, you should type the specific file name for your

specific mainboard.)

Step 5. Please press <F1> or <F10> to exit or reset your system, **Warning !** If the message **“Write Fail”** appears while Award “FLASH MEMORY WRITER” is verifying Flash memory, just repeat the process. Please DO NOT reset or turn off the system. If the award memory flash utility is not able to update the BIOS successfully, your system may not be able to boot up.

Step 6. You will need a message “CMOS checksum error-Default loaded” during booting the system. Press to run CMOS setup utility, then reload “LOAD SETUP DEFAULTS” or **“Load Optimized Defaults”** and save this change.

Figure 4-5-1 Award Flash Memory Writer Start Screen

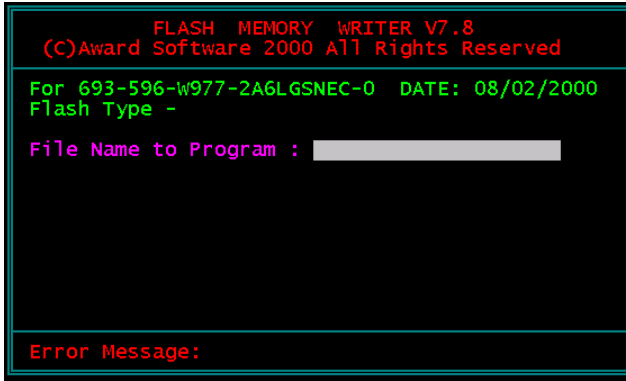
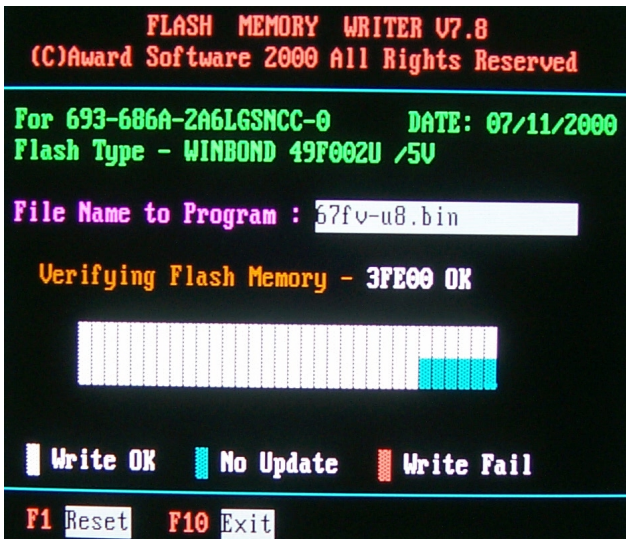


Figure 4-5-2 Award Flash Memory Writer Complete Screen



The parameters of AWDFLASH.EXE

/sn: No original BIOS backup

/py: Program flash memory

/cc: Clear CMOS data (and update data automatically) after programming

NOTE: Users can type AWDFLASH /? to get further details about the parameters. Incorrect usage of the parameter will damage the BIOS information, so we strongly recommend users to leave parameters alone unless you fully understand their function.

4-6 BIOS SETUP-- CMOS SETUP UTILITY

- This mainboard comes with the AWARD BIOS from AWARD Software Inc. Enter the CMOS Setup Utility Main Menu by:

1. Turn on or reboot your 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.

CMOS Setup Utility - Copyright (C) 1984 - 2001 Award Software

<ul style="list-style-type: none"> ▶ Standard CMOS Features ▶ Advanced BIOS Features ▶ Advanced Chipset Features ▶ Integrated Peripherals ▶ Power Management Setup ▶ PnP/PCI Configurations ▶ PC Health Status 	<ul style="list-style-type: none"> ▶ Frequency/Voltage Control Load Optimized Defaults Set Supervisor Password Set User Password SAVE & EXIT SETUP EXIT WITHOUT SAVING
Esc : Quit F9 : Menu in BIOS ↑↓→← : Select Item F10 : Save & Exit Setup	
Time, Date, Hard Disk Type...	

3. Use the arrow keys on your keyboard to 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.

4-6-1 STANDARD CMOS SETUP

- Standard CMOS Setup records some basic system hardware configuration and sets the system clock and error handling. You only need to modify the configuration values of this option if you want to change your system hardware configuration or when the data 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 list of options will appear:

CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
Standard CMOS Features

Date (mm:dd:yy)	Thu, Jun 5 2001	Item Help
Time (hh:mm:ss)	9 : 52 : 15	Menu Level ▶
▶ IDE Primary Master	Press Enter 13022 MB	
▶ IDE Primary Slave	Press Enter None	
▶ IDE Secondary Master	Press Enter None	
▶ IDE Secondary Slave	Press Enter None	
Drive A	1.44M, 3.5 in.	
Drive B	None	
Video	EGA/VGA	
Halt On	All Errors	
Base Memory	640K	
Extended Memory	31744K	
Total Memory	32768K	

↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

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

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

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

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

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

Date (mm:dd:yy) The BIOS determines the day of the week from the other date information. This field is for information only.
Press the left or right arrow key to move to the desired field (date, month, year). Press the PgUp or PgDn key to increment the setting, or type the desired value into the field.

Time (hh:mm:ss) The time format is based on the 24-hour military-time clock. For example, 1 P.M. is 13:00:00. Press the left or right arrow key to move to desired field. Press the PgUp or PgDn key to increment the setting, or type the desired value into the field.

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

Video Set this field to the type of video display card installed in the system. The choices are:
Monochrome;
Color 40x25;
VGA / EGA;
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;
 Post stops for all error.
 No Errors;
 Post does not stop for any error.
 All, But Keyboard;
 Post stops for all, but not for keyboard error.
 All, But Diskette;
 Post stops for all, but not for Diskette error.
 All, But Disk / Key;
 Post stops for all, but not for Disk / Keyboard.

CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
 IDE Primary Master

IDE HDD Auto-Detection	Press Enter	Item Help
IDE Primary Master	Auto	Menu Level ▶
Access Mode	Auto	
Capacity	13022 MB	
Cylinder	25232	
Head	16	
Precomp	0	
Landing Zone	25231	
Sector	63	

↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
 F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

3. Press <ESC> to return to the Main Menu when you finish setting up all items.

4-6-2 ADVANCED BIOS FEATURES

- ADVANCED BIOS FEATURES improves your system performance or sets up system features according to your preference.

Run the ADVANCED BIOS FEATURES as follows:

1. Choose “ADVANCED BIOS FEATURES” from the Main Menu and 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.

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

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

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

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

CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
Advanced BIOS Features

Virus Warning	Disabled	Item Help
CPU Internal Cache	Enabled	Menu Level ▶
External Cache	Enabled	
CPU L2 Cache ECC Checking	Enabled	
Processor Number Feature	Disabled	
Quick Power On Self Test	Enabled	
First Boot Device	Floppy	
Second Boot Device	HDD-0	
Third Boot Device	CDROM	
Boot Other Device	Enabled	
Swap Floppy Drive	Disabled	
Boot Up Floppy Seek	Disabled	
Boot Up NumLock Status	On	
Gate A20 Option	Fast	
Typematic Rate Setting	Disabled	
× Typematic Rate (Chars/Sec)	6	
× Typematic Delay (Msec)	250	
Security Option	Setup	
OS Select For DRAM > 64MB	Non-OS2	
Report No FDD For WIN95	No	

↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

- Virus Warning** Enabled: Activates automatically when the system boots up showing a warning message if anything attempts 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/ External Cache** Cache memory is additional memory that is much faster than conventional DRAM (system memory). CPUs from 486-type 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.
- CPU L2 Cache ECC Checking** When you select *Enabled*, it will speed up memory checking when the external cache contains ECC SRAMs.
The choices: Enabled; Disabled.
- Processor Number Feature** Choose Disabled or Enabled. When enabled, the processor serial number will display during the boot up screen.
- Quick Power On Self Test** Select Enabled to reduce the amount of time required to run the power-on self-test (POST). A quick POST skips certain steps. We recommend that you normally enable quick POST. Better to find a problem during POST than lose data during your work.
- First/Second/Third/ Other Boot Device** The BIOS attempts to load the operating system from the devices in the sequence selected in these items. The choices: Floppy; LS/ZIP; HDD; SCSI; CDROM; Disabled.

- Swap Floppy Drive** When enabled, floppy drives A and B will be exchanging status without any physical connection and modification on the cables.
- Boot Up Floppy Seek** When enabled, the BIOS tests (seeks) floppy drives to determine whether they have 40 or 80 tracks. Only 360-KB floppy drives have 40 tracks; drives with 270KB, 1.2MB, and 1.44MB capacity all have 80 tracks. Because very few modern PCs have 40-track floppy drives, we recommend that you set this field to a disabled to save time.
- Boot Up NumLock Status** Toggle between On or Off to control the state of the NumLock key when the system boots. When toggled On, the numeric keypad generates numbers instead of controlling cursor operations.
- Gate A20 Option** Gate A20 refers to the way the system addresses memory above 1 MB (extended memory). When set to *Fast*, the system chipset controls Gate A20. When set to *Normal*, a pin in the keyboard controller controls Gate A20. Setting Gate A20 to Fast improves system speed, particularly with OS/2 and Windows.
- Typematic Rate Setting** When *Disabled*, the following two items (Typematic Rate and Typematic Delay) are irrelevant. Keystroke repeats at a rate determined by the keyboard controller in your system.
When *Enabled*, you can select a typematic rate and typematic delay.
- Typematic Rate (Chars / Sec)** When the typematic rate setting is enabled, you can select a typematic rate (the rate at which character repeats when you hold down a key) of 6, 8, 10, 12, 15, 20, 24, or 30 characters per second.
- Typematic Delay (Msec)** Choices: 250; 500; 750; 1000. This option sets the time interval for displaying the first and the second characters. If enabled, the time interval is optional.

Security Option If you have set a password, select whether the password is required every time the System boots, or only when you enter setup.
The choices: system; setup.

OS Select For DRAM > Select OS2 only if you are running OS/2 operating system with greater than 64MB of RAM on your system.

Report No FDD For Yes:BIOS reports "NO FDD" to Win95.
Win95 No(default):BIOS will not report "NO FDD" to Win95.

3. Press <ESC> to return to the Main Menu when you finish setting up all items.

4-6-3 ADVANCED CHIPSET FEATURES

- ADVANCED CHIPSET FEATURES is used to modify the values of chipset registers. These registers control the system options.

Run the ADVANCED CHIPSET FEATURES as following:

1. Choose "ADVANCED CHIPSET FEATURES" from the Main Menu and 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.

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

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

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

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

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Advanced Chipset Features

SDRAM CAS Latency Time	3	Item Help
SDRAM Cycle Time Tras/Trc	7/9	Menu Level ▶
SDRAM RAS-To-CAS Delay	3	
SDRAM RAS Precharge Time	3	
System BIOS Cacheable	Disabled	
Video BIOS Cacheable	Disabled	
Memory Hole At 15M-16M	Disabled	
CPU Latency Timer	Disabled	
Delayed Transaction	Enabled	
AGP Graphics Aperture Size	64MB	
Display Cache Frequency	100MHz	
System Memory Frequency	Auto	
* Onboard Display Cache Setting *		
CAS# Latency	3	
Paging Mode Control	Open	
RAS-to-CAS Override	by CAS# LT	
RAS# Timing	Fast	
RAS# Precharge Timing	Fast	

↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

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.

SDRAM Cycle Time Tras/Trc Select the number of SCLKs for an access cycle.
The choice: 5/7; 7/9.

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. This field applies only when synchronous DRAM is installed in the system.
The Choice: 2; 3.

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. This field applies only when synchronous DRAM is installed in the system.
The Choice: 2; 3.

System BIOS Cacheable Selecting Enabled allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance.

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

Memory Hole At 15M-16M You can reserve this area of system memory for ISA adapter ROM. When this area is reserved, it cannot be cached. The user information of peripherals that need to use this area of system memory usually discusses their memory requirements.

CPU Latency Timer Please use Default setting.

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.

AGP Graphics Aperture Size Series of options are available: 4, 8, 16, 32, 64, 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. The default setting is 64MB.

Display Cache Frequency Use Default setting.
The choice:100MHz,133MHz.

System Memory Frequency Set SDRAM clock speed.
The choice:Auto,100MHz,133MHz.

3. Press <ESC> to return to the Main Menu when you finish setting up all items.

4-6-4 INTEGRATED PERIPHERALS

- INTEGRATED PERIPHERALS option allows you to get some information inside your system when it is working.

Run the INTEGRATED PERIPHERALS as follows:

1. Choose “INTEGRATED PERIPHERALS” from the Main Menu and 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.

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

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

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

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

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Integrated Peripherals

On-Chip Primary PCI IDE	Enabled	Item Help
On-Chip Secondary PCI IDE	Enabled	Menu Level ▶
IDE Primary Master PIO	Auto	
IDE Primary Slave PIO	Auto	
IDE Secondary Master PIO	Auto	
IDE Secondary Slave PIO	Auto	
IDE Primary Master UDMA	Auto	
IDE Primary Slave UDMA	Auto	
IDE Secondary Master UDMA	Auto	
IDE Secondary Slave UDMA	Auto	
USB Controller	Enabled	
USB Keyboard Support	Disabled	
USB Mouse Support	Disabled	
Init Display First	PCI Slot	
AC97 Audio	Auto	
AC97 Modem	Auto	
Onboard/CNR LAN Selection	Auto	
IDE HDD Block Mode	Enabled	
Power ON Function	BUTTON ONLY	
KB Power ON Password	Enter	
Hot Key Power On	Ctrl - F1	
Onboard FDC Controller	Enabled	
Onboard Serial Port 1	Auto	
Onboard Serial Port 2	Auto	
UART Mode Select	Normal	
UR2 Duplex Mode	Half	
Onboard Parallel Port	378/IRQ7	
Parallel Port Mode	SPP	
ECP Mode Use DMA	3	
PWRON After PWR-Fail	Off	
Game Port Address	201	
Midi Port Address	330	
Midi Port IRQ	10	

↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

- On-Chip Primary/Secondary PCI IDE** 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; Disabled.
- Primary Master / Slave PIO Secondary Master / Slave PIO** Choose Auto 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.
The choices: Auto; Mode 0; Mode 1; Mode 2; Mode 3; Mode 4.
- Primary Master / Slave UDMA Secondary Master / Slave UDMA** Ultra DMA33/66/100 implementation is possible only if your IDE hard drive supports it, if the operating environment includes a DMA drive, and if your system software support Ultra DMA33/66/100. Select "Auto" to enable BIOS support.
The choices: Auto; Disabled.
- USB Controller** Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have USB peripherals.
- USB Keyboard Support** Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard.
- USB Mouse Support** Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB mouse.
- Init Display First** Initialize the AGP video display before initializing any other display device on the system. Thus the AGP display becomes the primary display.
The choices: PCI Slot; AGP.
- AC97 Audio/Modem** This option allows you to decide to enable/disable the 815 chipset to support AC97 Audio/Modem.
The choice:Auto; Disabled

Onboard/CNR LAN Selection Use the default setting.
The choice: Auto; Onboard

IDE HDD Block Mode Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/write per sector the drive can support.
The choices: Enabled; Disabled.

Power ON Function This option allows you to select <KB Power ON Password> , <Hot-Key Power ON> or others.
The choice:Any Key; Button only; Keyboard 98; Password; Hot-Key; Mouse Move; Mouse Click.

KB Power ON Password When user sets a password for keyboard, the password user set that return the system to Full On state.

Hot-Key Power ON Boot up the system via predetermined keyboard hot key.
The choice: <Ctrl>+<F1>...<F12>

Onboard FDC Controller Select Enabled if your system has a floppy drive controller (FDC) installing in the system board and you want to use it. If you install add-in FDC or the system has no floppy drive, select Disabled in this field.
The choices: Enabled; Disabled.

Onboard Serial Port 1 / Port2 Select an address and corresponding interrupt for the first and second serial ports.
The choices: 3F8/IRQ4; 2E8/IRQ3; 3E8/IRQ4; 2F8/IRQ3; Disabled; Auto.

UART Mode Select This item allows you to select UART mode.
The choice: Normal; IrDA; ASKIR; SCR.

UR2 Duplex Mode This item allows you to select the IR half/full duplex function.
The choice: Full; Half.

Onboard Parallel Port Select a logical LPT port name and matching address for the physical parallel (printer) port.
The choices: 378H/IRQ7; 278H/IRQ5; 3BC/IRQ7; Disabled.

Parallel Port Mode Select an operating mode for the onboard parallel (printer) port. Select Normal, Compatible, or SPP unless you are certain your hardware and software both support one of the other available modes.

ECP Mode Use DMA Select a DMA channel for the parallel port for use during ECP mode.
The choices: 3; 1.

PWRON After PWR-Fail Off:Disable Power Lost Resume function.
On:Enable Power Lost Resume function.
Former Sts.:Use Former status.
The choice: Off; On; Former Sts.

Game Port Address This item allows you to select the Game Port Address.
The choice: Disabled; 201; 209.

Midi Port Address Select a DMA channel for the parallel port for use during ECP mode.
The choice: Disabled; 330; 300.

Midi Port IRQ This item allows you to select the Midi Port IRQ.
The choice: 5; 10.

3. Press <ESC> to return to the Main Menu when you finish setting up all items.

4-6-5 POWER MANAGEMENT SETUP

- POWER MANAGEMENT SETUP allows you to set the system's power saving functions.

Run the POWER MANAGEMENT SETUP as follows:

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

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Power Management Setup

ACPI Function	Enabled	Item Help
ACPI Suspend Type	S1(POS)	Menu Level ▶
Power Management	User Define	
Video Off Method	V/H SYNC+Blank	
Video Off In Suspend	Yes	
Suspend Type	Stop Grant	
MODEM Use IRQ	3	
Suspend Mode	Disabled	
HDD Power Down	Disabled	
Soft-Off by PWR-BTTN	Instant-Off	
Wake-up by PCI card	Disabled	
Power On by Ring	Disabled	
USB KB Wake-Up From S3	Disabled	
Resume by Alarm	Disabled	
× Date (of Month) Alarm	0	
× Time (hh:mm:ss)	0 0 0	
** Reload Global Timer Events **		
Primary IDE 0	Disabled	
Primary IDE 1	Disabled	
Secondary IDE 0	Disabled	
Secondary IDE 1	Disabled	
FDD, COM, LPT Port	Disabled	
PCI PIRQ[A-D] #	Disabled	

↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

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

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

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

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

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

ACPI Function Select Enabled only if your computer's operating system supports the Advanced Configuration and Power Interface (ACPI) specification. Currently, Windows NT 5.0 support ACPI.

ACPI Suspend Type This item will allow you to select the ACPI suspend type. You can select S3(STR) for suspending to DRAM or S1(POS) for power on suspend under Windows 98 ACPI mode.

The choice: S1(POS), S3(STR).

Power Management This option allows you to select the type (or degree) of power saving for Doze, Standby, and Suspend modes.

This table describes each power management mode:

Max Saving	Maximum power savings. Only Available for SL CPUs. Inactivity period is 1 minute in each mode.
User Define	Set each mode individually. Select time-out periods in the section for each mode stated below.
Min Saving	Minimum power savings. Inactivity period is 1 hour in each mode (except the hard drive).

Video Off Method This determines the manner in which the monitor is blanked.

V/H SYNC + Blank	This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.
Blank Screen	This option only writes blanks to the video buffer.
DPMS	Select this option if your monitor supports the Display Power Management Signaling (DPMS) standard of the Video Electronics Standards to select video power management values.

Video Off in Suspend This determines the manner in which the monitor is blanked.
The choice: Yes, No.

Suspend Type Select the Suspend Type.
The choice:PWRON Suspend, Stop Grant.

MODEM Use IRQ This determines the IRQ which the MODEM can use.
The choices: 3; 4; 5; 7; 9; 10; 11; NA.

Suspend Mode After the selected period of system inactivity, all devices except the CPU shut off.

HDD Power Down After the selected period of drive inactivity, the hard disk drive powers down while all other devices remain active.

Soft-Off by PWR-BTTN When Enabled, turning the system off with the on/off button 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.

Wake-up by PCI card This function allows you to enabled the system by wake-up by PCI card.
The choice:Delay 4 Sec,Instant-Off.

Power On 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.
The choice: Enabled, Disabled.

USB KB Wake-Up From S3 This item will enable you to Wake-up the system by USB keyboard when you shut down the computer in S3 Mode.
The choice:Enabled,Disabled.

Resume by Alarm When Enabled, you can set the data and time at the which the RTC (Real Time Clock) alarm awakens the system from suspend mode.

Date (of Month) Set a certain date when RTC Alarm Resume option is Enabled to awaken the system. This option is concurrent with Resume Time option.

Resume Time (hh:mm:ss) Set a certain time when RTC Alarm Resume option is Enabled to awaken the system. This option is concurrent with Date option.

Reload Global Timer Events Reload Global Timer Events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything which occurs to a device which is configured as Enabled, even when the system is in a power down mode.
Primary IDE 0/1;
Secondary IDE 0/1;
FDD, COM, LPT Port;
PCI PIPQ[A-D]#.

3. Press <ESC> to return to the Main Menu when you finish setting up all items.

4-6-6 PNP / PCI CONFIGURATION

- PNP/PCI CONFIGURATION allows you to modify the system's power saving functions.

Run the PNP/PCI CONFIGURATION as follows:

1. Choose "PNP/PCI CONFIGURATION" from the Main Menu and a list of options will appear:

CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
PnP/PCI Configurations

Reset Configuration Data	Disabled	Item Help
Resources Controlled By × IRQ Resources	Auto(ESCD) Press Enter	Menu Level ▶
PCI/VGA Palette Snoop	Disabled	

↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

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

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

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

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

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

Reset Configuration Data Normally, you leave this *Disabled*. Select *Enabled* to reset Extended System Configuration Data (ESCD), when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system cannot boot.

Resource Controlled By Choose Manual or Auto. The BIOS checks the IRQ / DMA channel number on the ISA and PCI card manually set up if you choose Manual, and the IRQ / DMA channel number will be checked automatically if you choose Auto.

IRQ Resources Press Enter. Please refer to the list below:

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 IRQ Resources

IRQ-3 assigned to	PCI Device	Item Help
IRQ-4 assigned to	PCI Device	Menu Level ▶
IRQ-5 assigned to	PCI Device	
IRQ-7 assigned to	PCI Device	
IRQ-9 assigned to	PCI Device	
IRQ-10 assigned to	PCI Device	
IRQ-11 assigned to	PCI Device	
IRQ-12 assigned to	PCI Device	
IRQ-14 assigned to	PCI Device	
IRQ-15 assigned to	PCI Device	

↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
 F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

PCI/VGA Palette Snoop This option allows the BIOS to preview VGA status, and to modify the information delivered from the feature Connector of the VGA card to MPEG card. This option can solve the display inversion to black after you have used MPEG card.

3. Press <ESC> to return to the Main Menu when you finish setting up all items.

4-6-7 PC HEALTH STATUS

- This section helps you to get more information about your system including CPU temperature, FAN speed and voltage. It is recommended that you contact your mainboard supplier to get proper value about your setting of the CPU temperature.

CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
PC Health Status

Shutdown Temperature Disabled	Item Help
Voltage 0	Menu Level ▶
Voltage 1	
Voltage 2	
Voltage 3	
Voltage 4	
Voltage 5	
Voltage 6	
Voltage 7	
Voltage Battery	
Temperature 1	
Temperature 2	
Temperature 3	
Fan 1 Speed	
Fan 2 Speed	
Fan 3 Speed	

↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Shutdown Temperature This item allows you to set up the CPU shutdown Temperature. This item only effective under Windows 98 ACPI mode.

The choice:60°C/140°F , 65°C/149°F , 70°C/158°F , 75°C/167°F

Voltage Shows current voltage value.

Temperature Shows current temperature.

FAN 1/2/3 Speed Shows current FAN speed. The fan must provide rotary pulse. (Normally these types of fan have a three-wire connector)

- Press <ESC> to return to the Main Menu when you finish setting up all items.

4-6-8 FREQUENCY/VOLTAGE CONTROL

Run the "FREQUENCY/VOLTAGE CONTROL" as follows:

1. Choose "FREQUENCY/VOLTAGE CONTROL" from the Main Menu and a list of options will appear:

CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
Frequency Control

Auto Detect DIMM/PCI Clk	Enabled	Item Help
Spread Spectrum Modulated	Disabled	Menu Level ▶
Linear Spread Model	3	
Linear Spread Range	0	
CPU Skew Adjust	Disabled	
PCI Skew Adjust	Disabled	
SDRAM Skew Adjust	Disabled	
AGP Skew Adjust	Disabled	
CPU Host/PCI Clock	66	
CPU Voltage Regulator	Default	
CPU Clock Ratio	x3	

↑↓→← :Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

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

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

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

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

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

- Auto Detect DIMM/PCI CLK** This item allows you to enable/disable to detection of DIMM/PCI Clock.
The choices: Enabled; Disabled.
- Spread Spectrum Modulated** This item allows you to enable/disable the spread spectrum modulation.
The choices: Enabled; Disabled.
- Linear Spread Model** This item allows you to enable/disable the linear spread model.
The choices: Enabled; Disabled.
- Linear Spread Range** This item allows you to enable/disable the linear spread range.
The choices: Enabled; Disabled.
- CPU Skew Adjust** Please use default setting.
The choice: Disabled; 150ps; 300ps; 450ps.
- PCI Skew Adjust** Please use default setting.
The choice: Disabled; 150ps; 300ps; 450ps.
- SDRAM Skew Adjust** Please use default setting.
The choice: Disabled; 150ps; 300ps; 450ps.
- AGP Skew Adjust** Please use default setting.
The choice: Disabled; 150ps; 300ps; 450ps.
- CPU Host/PCI Clock** Select Default or select a timing combination for the CPU and the PCI bus. When set to Default, the BIOS uses the actual CPU and PCI bus clock values.
- CPU Voltage Regulator** This item allows you to select CPU Voltage.
The choice: Default; +0.05V; +0.10V; +0.20V; +0.30V; +0.40V; -0.10V; -0.05V.
- CPU Clock Ratio** This item allows you to select the CPU ratio, if CPU clock Ratio is locked, the function will have no effect.

- Press <ESC> to return to the Main Menu when you finish setting up all items.
-

4-6-9 LOAD OPTIMIZED DEFAULTS

- When you press <Enter> on this item, you will get a confirmation dialog box with a message similar to:

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

"Y" is for "Yes", and "N" is for "No".

- Pressing "Y" loads the BIOS default values that are factor settings for optimal performance of system operations.

4-6-10 SET SUPERVISOR / USER PASSWORD

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

1. Choose "Change Password" in the Main Menu and press <Enter>. Then 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" the same as you have just typed 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 entered before, choose the Supervisor Password and press <Enter>. It will delete the password that you have entered before.
7. Move the cursor to Save & Exit Setup to save the option you have just configured; otherwise the old password will still be there the next time you turn your system on.
8. Press <Enter> 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. All setup informations will be lost and you need to run the BIOS setup program again.*

4-6-11 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 "
```

"Y" is for "Yes", and "N" is for "No".

- Press <Enter> key to save the configuration changes.
-

4-6-12 EXIT WITHOUT SAVING

- EXIT WITHOUT SAVING option 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 "
```

"Y" is for "Yes", and "N" is for "No".

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

APPENDICES

THIS CHAPTER CONTAINS THE FOLLOWING TOPICS :

- APPENDIX-1 TECHNICAL TERMS INTRODUCTION**
- APPENDIX-2 IDENTIFYING BIOS VERSION**
- APPENDIX-3 IDENTIFYING MAINBOARD MODEL NUMBER**

APPENDIX-1 TECHNICAL TERMS INTRODUCTION

Technical Terms Introduction	
Tech Term	Meaning
AGP	Accelerated Graphic Port
AMR	Audio Modem Riser
ACR	Advanced Communication Riser
CPU	Central Processing Unit
CMOS	Complementary Metal Oxide Semiconductor
CRIMM	Continuity RIMM
CNR	Communication and Networking Riser
DMA	Direct Memory Access
DMI	Desktop Management Interface
DIMM	Dual Inline Memory Module
DRAM	Dynamic Random Access Memory
DDR	Double Data Rate
ECP	Extended Capabilities Port
ESCE	Extended System Configuration Data
ECC	Error Check and Correct
EPP	Enhanced Parallel Port
FDD	Floppy Disk Device
IDE	Integrated Dual Channel Enhanced
IRQ	Interrupt ReQuest
I/O	Input/Output
LAN	Local Area Network
LBA	Logical Block Addressing
LED	Light Emitting Diode
MHz	Megahertz
PNP	Plug & Play
USB	Universal Serial Bus
VCM	Virtual Channel Memory

APPENDIX-2 IDENTIFYING BIOS VERSION AND BIOS PART NUMBER

When you boot up your computer, you may see a screen which tells your computer is phoenixnet™ enabled, please see the example below.

When the main screen Figure1 shows up, press “Tab” key to display BIOS information (Figure2).

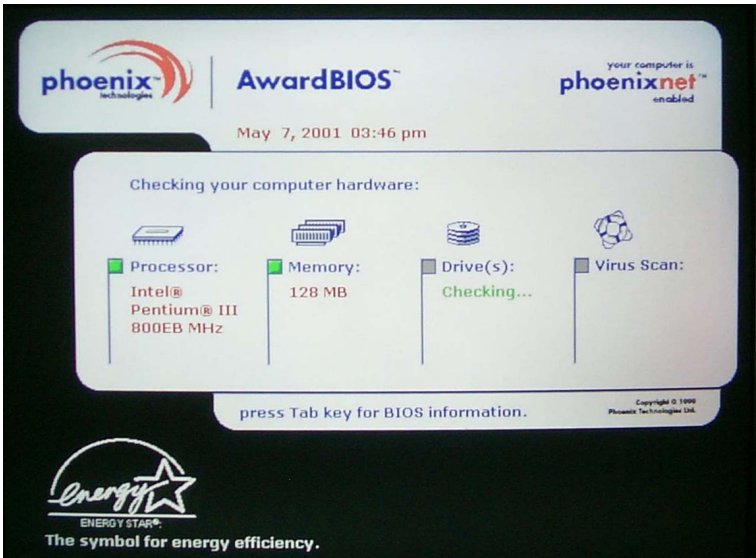


Figure 1 - Phoenixnet screen

Figure2 shown below displays the BIOS version and BIOS part number identification.

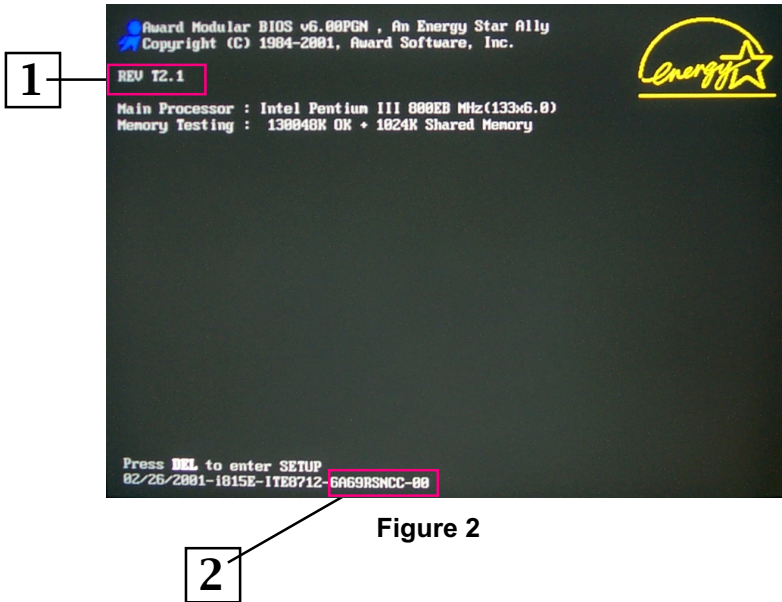
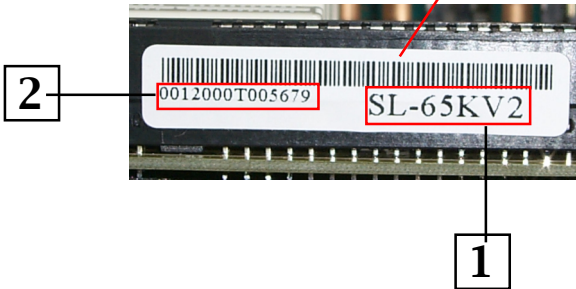
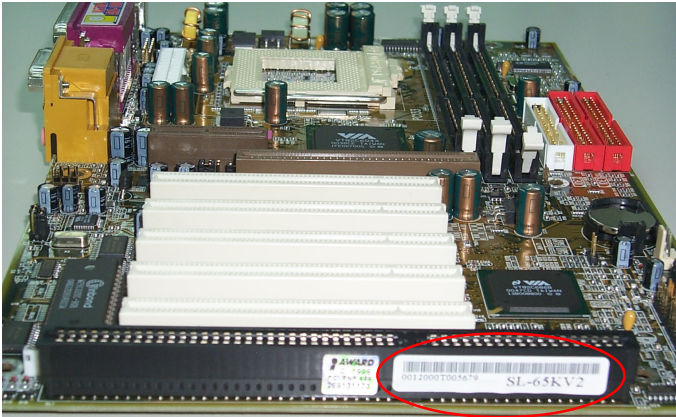


Figure 2

1. BIOS VERSION example: REV T2.1
2. BIOS ID STRING example: 6A69RSNCC

APPENDIX-3 IDENTIFYING MAINBOARD / MODEL NUMBER

Usually the mainboard model number is labeled on the side of ISA slot or PCI slot. Please see the picture shown below:



1. MAINBOARD MODEL NUMBER
example: SL-65KV2
2. MAINBOARD SERIAL NUMBER
example: 0012000T005679

