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SL-65DRV-T USER MANUAL v1.0

NOTICE

Product Model	**: SL-65DRV-T**
Manual Revision	**: V1.0**
Release Date	**: August 2001**

This User's Guide & Technical Reference is to help system manufacturers and end-users set up and install the mainboard. Every effort has been made to ensure that the information in this manual is accurate. Soltek Computer Inc. is not responsible for printing or clerical errors. Information in this document is subject to change without notice and does not represent a commitment on the part of Soltek Computer Inc.

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

CHAPTER 1
INTRODUCTION

• This chapter briefly introduces this characteristics of the 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

1-1.1 PROCESSOR

- Supporting Intel® FC-PGA Pentium III™ up to 1GHz.
- Supporting Intel® FC-PGA 370 Celeron & PPGA 370 Celeron up to 900MHz.
- Supporting Intel® FC-PGA2 processors.
- Supporting VIA Cyrix III up to 800MHz or above.
- Supporting CPU voltage Auto-Detect circuit.

1-1.2 CHIPSET

- Apollo Pro266T Chipset:
  VT8633 V-Link Host system controller and VT8233 V-Link to PCI/LPC bridge.
- IT 8705F simple LPC I/O.

1-1.3 AWARD BIOS V6.0

- Plug & Play V1.0.
- Flash Memory for easy upgrade.
- BIOS writing protection.
- Year 2000 compliant.
- SmartDOC Anti-Burn shield.
- Redstrom Overclocking Tech.

1-1.4 SOUND CONTROLLER

- Sound Blaster Pro Hardware and Direct Sound Ready AC'97 Digital Audio Controller with Codec ON BOARD.

1-1.5 FULL FEATURED ACCELERATED GRAPHICS PORTS (AGP) CONTROLLER

- Synchronous and pseudo-synchronous with the host CPU bus with optimal skew control PCI AGP CPU Mode 33/66/100 MHz DDR 3x synchronous.
- Supporting 66MHz 1x/2x/4x modes for AD and SBA signaling.
- AGP v2.0 compliant.

1-1.6 ADVANCED HIGH PERFORMANCE SDR/DDR DRAM CONTROLLER

- Supporting memory size up to 3GB.
- Supporting 184-pin DDR DRAM type only.

1-1.7 POWER MANAGEMENT

- ACPI 1.0 compliant (Advanced Configuration and Power Interface).
- APM V1.2 compliant (Legacy power management).
- 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 Keyboard power on & Mouse Power on.

1-1.8 MULTI-I/O FUNCTION

- Two Ultra DMA-33 / 66 /100 Master Mode PCI EIDE ports.
- Two UART's for Complete Serial Ports.
- One dedicated IR connector:
  -- At 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 support .
- 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.

1-1.9 EXPANSION SLOTS

- Six PCI bus Master slots.
- One CNR slot.
- One AGP 4x Pro mode slot.
- Three DIMM slots.

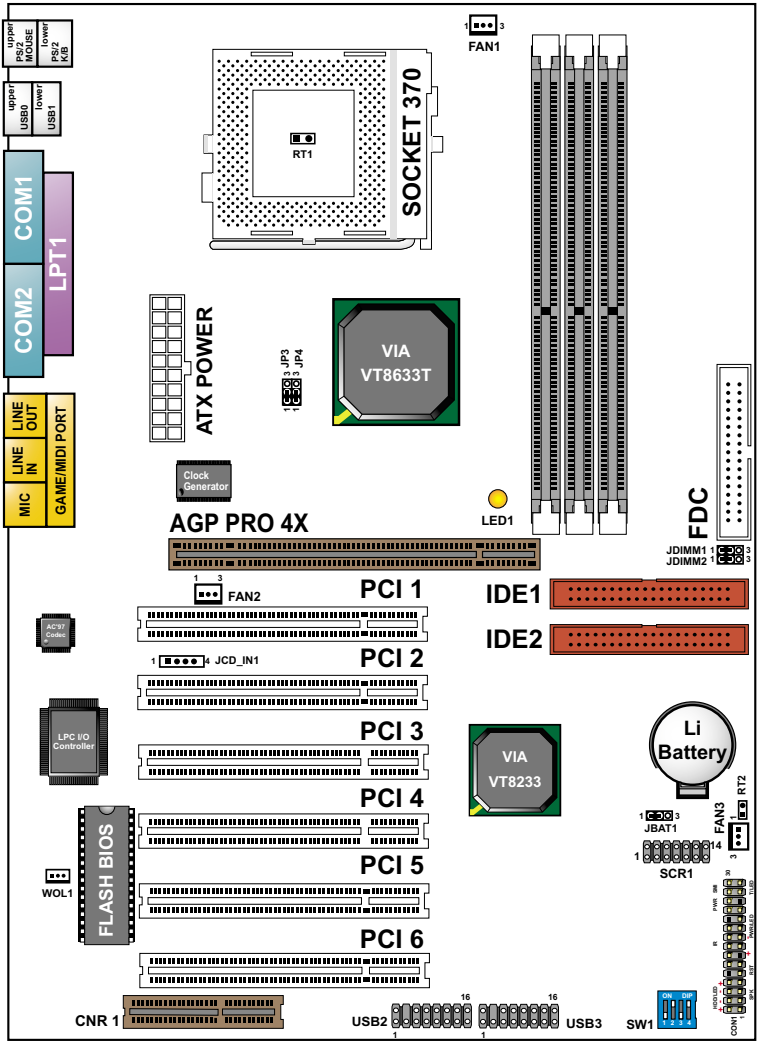
1-1.10 FORM FACTOR

- ATX from factor, 4 layers PCB.
- Mainboard size 22.0cm X 30.2cm.

1-1.11 HARDWARE MONITOR

- Programmable control, status, to provide monitoring and alarm for flexible desktop management (software include).
- 5 positive voltage statuses monitoring.
- 2 temperatures statuses monitoring.
- 1 Fan-speed status monitoring.

1-2 MAINBOARD LAYOUT --- 65DRV-T



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

1-3 CHIPSET DIAGRAM--- 65DRV-T

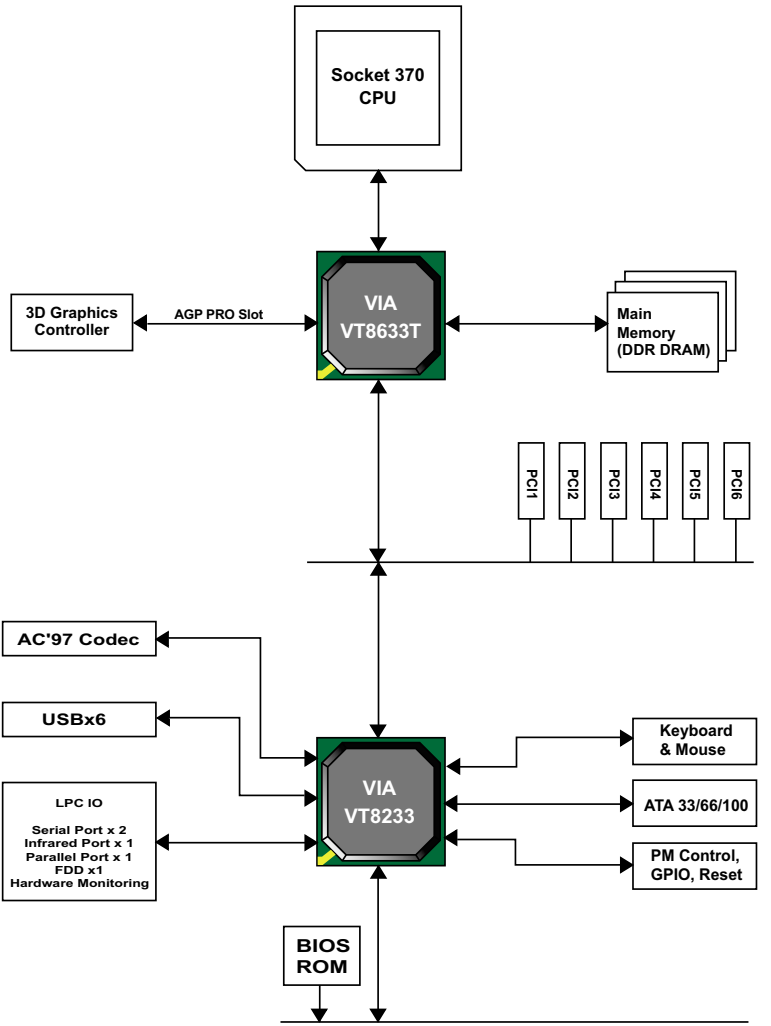


Diagram of VIA VT8633T System Block Using the VT8233 South Bridge

CHAPTER 2
HARDWARE SETUP

ATTENTION !!!

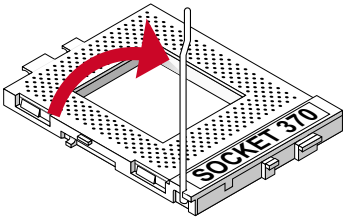
1. Please refer to your processor installation or other documentation attached with your CPU for more detailed installing instruction.
2. Installing a heat sink and cooling fan is necessary for proper heat dissipation from your CPU. Incorrect installation may result in overheating and damage of your 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 :

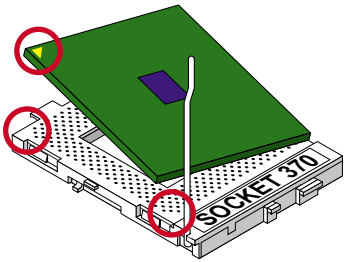
2-1 CPU INSTALLATION

WARNING !!!

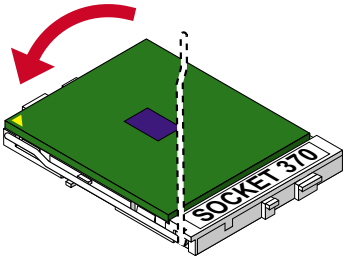
- *Make sure that +5V DCV and +3.3 DCV of your power supply are suitable for the processor.*
- *Any attempt to operate the PIII or Celeron processor without a suitable cooling Fan will damage processor and other component.*



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.

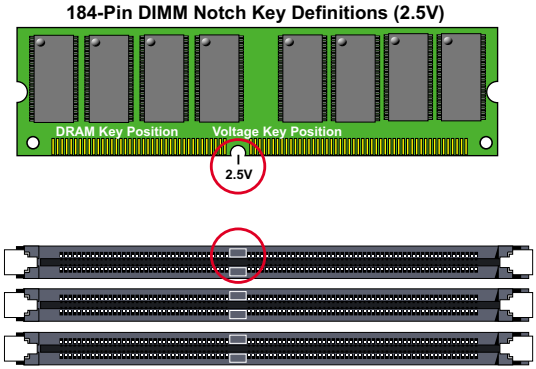
2-2 MEMORY INSTALLATION

WARNING!!!

- *Make sure to unplug your power supply before 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 improperly may damage the memory module or the socket. Some DIMMs which contain EDO or FTP DRAM are incompliant with the mainboard. The M/B supports 2.5V true SDRAM DIMMs only.*

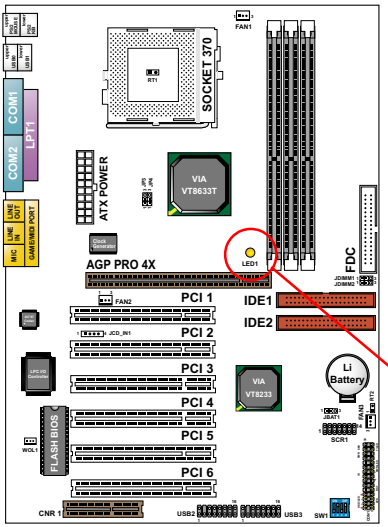
Installing DIMM

- Make sure you have the correct memory module type for your mainboard.
- Insert the module(s) as shown below, DIMMs have 184-pins and one notch that will be matched by the ON BOARD 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

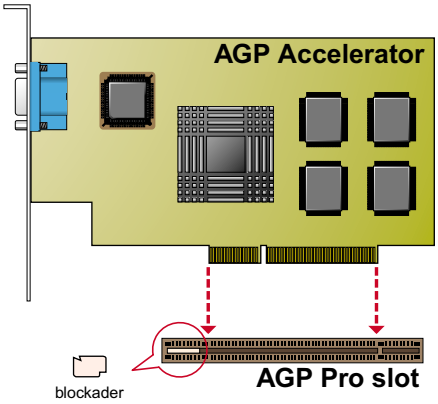
- Press down the holding clips on both sides of a DIMM socket and the module will be released from it.

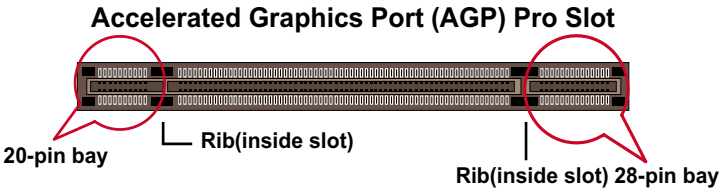


NOTICE : When LED "LED1" is on, meaning that 2.5V is on DIMM slots, please do not add or remove memory modules .

2-3 ACCELERATED GRAPHICS PORT(AGP) PRO INSTALLATION

- The AGP Pro connector is an extension of the existing AGP connector and it is compatible with existing AGP cards.



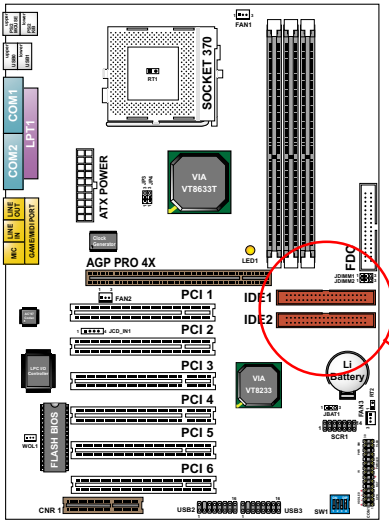


CAUTION!!

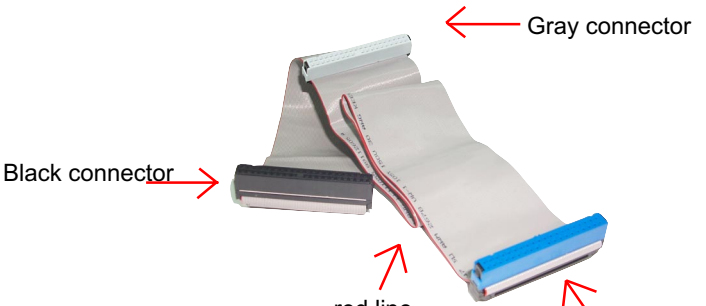
The AGP Pro slot comes with a warning label over the 20-pin bay. Do not remove this label and the safety tab underneath if you use an AGP card without a retention notch. Without the labels, AGP cards may be placed into the wrong place. If that's the case, this action will damage your card, slot, and mainboard. Remove the label ONLY if you will be using an AGP Pro card.

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 (IDE2) 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.

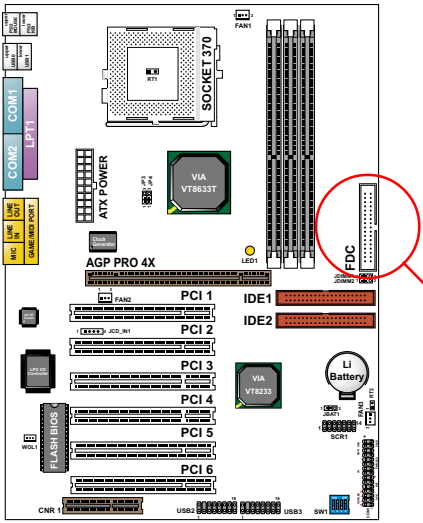


Hard Disk Drive Connector: Orient the red line on the IDE ribbon cable to Pin1.

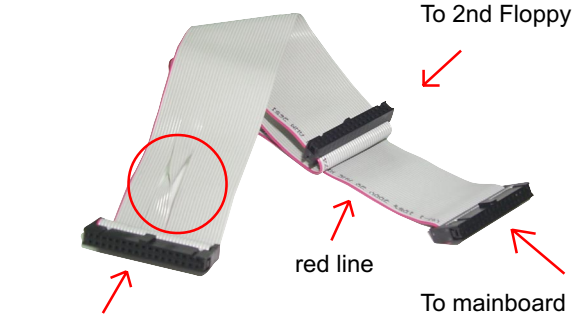


IDE Cable

- To install FDD (Floppy Disk Drive), you may connect the end with single connector to the board , and connect the other end with two plugs to the floppy drives.



Floppy Disk Drive Connector: Orient the red line on the floppy ribbon cable to Pin1.



FDD Cable

2-5 FSB Frequency Select (By SW1 DIP1~DIP4)

- Over clocking is not recommended, your system may work unstable.
- SW1 DIP1~4 settings for FSB (Front Side Bus) Frequency Select is a redundancy device designed for professional CPU overclocking only. Since this mainboard is designed with CPU clock auto-detection function, you are recommended to use the SW1 DIP1~4 default setting for a stable system performance. In case of CPU overclocking to higher frequency, these exists high possibility of failure due to the high complexity of components adopted on board. On the other hand, selecting a lower frequency setting for a CPU with higher frequency (e.g. select 100MHz setting for a 133MHz CPU) will also cause system failure.

SW1 DIP1 ~ DIP4 SETTING	
	66MHz
	100MHz
	133MHz
	Auto Select (default)

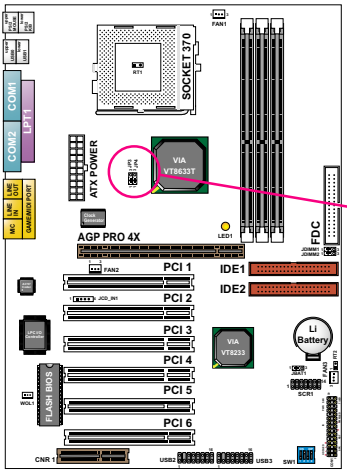
2-6 JUMPER SETTING FOR DEVICES ON BOARD

- The following diagrams show the locations of jumper blocks on the mainboard.

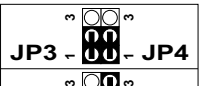
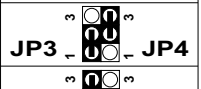
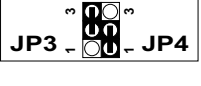
CAUTION

- *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 covered with black marks are closed pins.*

2-6.1 JP3/JP4 AGP Voltage Select

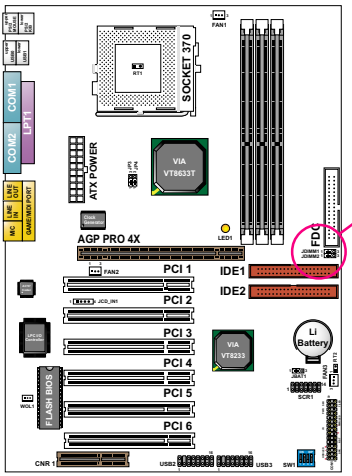


To Select AGP Voltage Select:

1.5V (default)	
1.6V	
1.7V	

2-6.2 JDIMM1/JDIMM2 Memory Module Voltage Select

This function allows you to select the voltage supplied to the DRAM. The default voltage (2.5V) should be used unless processor overclocking requires a higher voltage.



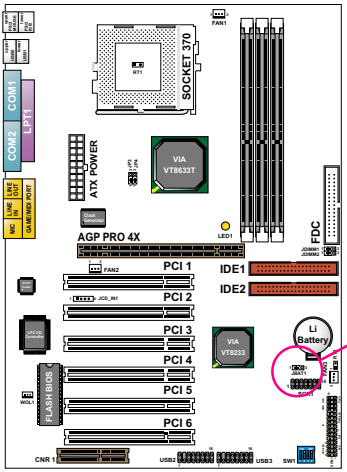
JDIMM1/JDIMM2 To Select Memory Module Voltage:

2.5V (default)	**JDIMM1 JDIMM2** 
2.6V	**JDIMM1 JDIMM2** 
2.7V	**JDIMM1 JDIMM2** 

NOTE! Using a higher voltage may help when overclocking but may result in shortening of your computer components's life. It is strongly recommended that you leave this setting at its default.

2-6.3 JBAT1 For Clear CMOS DATA

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



JBAT1 To Clear CMOS DATA:

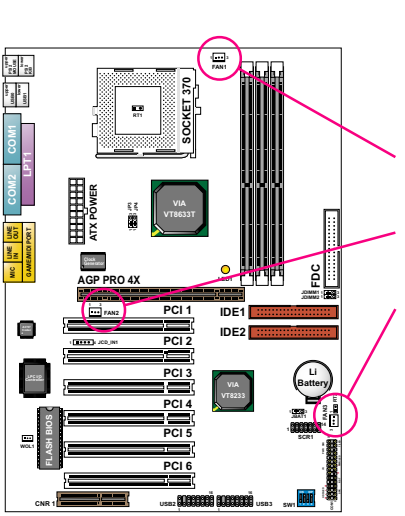
Clear CMOS Data	**JBAT1**	1 3
Retain Data (default)	**JBAT1**	1 3

NOTE: You can clear CMOS by setting Pin 2-3 closed when the system is POWER OFF. Then, return to Pin1-2 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.

2-7 CONNECTORS CONFIGURATIONS

• This section list out all connectors configurations for users' reference.

2-7.1 On board FAN Connector (FAN1, FAN2, FAN3)



On Board FAN Connector (FAN1):

On Board FAN Connector (FAN2):

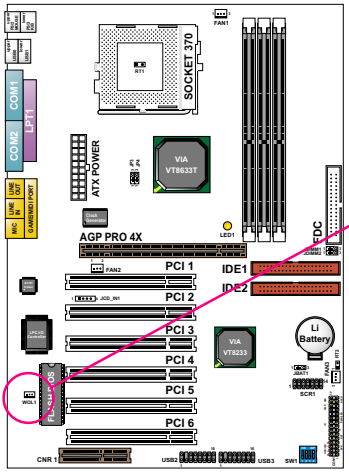
On Board FAN Connector (FAN3):

CPU FAN1	**FAN1**
SYSTEM FAN	**FAN2**
CHASSIS FAN	**FAN3**

These connectors support CPU/System/chassis cooling fan with +12V. When connecting wire to FAN connectors, users should pay attention that the red wire is for the positive 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, each 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.

2-7.2 WOL1 Wake On LAN Connector

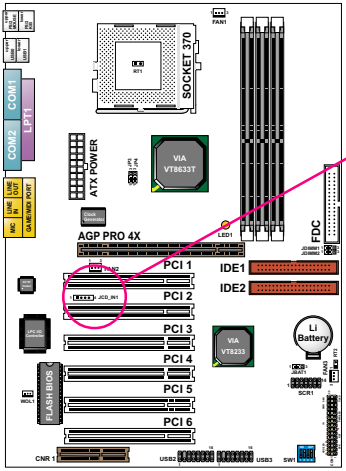


Wake On LAN:

Connect the Wake On LAN signal from LAN card to WOL1	WOL1

This connector connects to a LAN card with a Wake On LAN output. The connector powers up the system when it receives a wake-up packet or signal 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 be on ATX power supply with at least 720mA / +5V standby power.

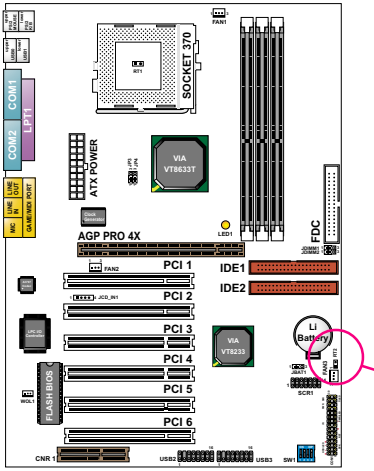
2-7.3 JCD_IN1 CD-ROM Audio Connector



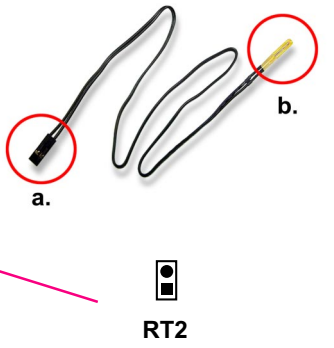
CD-ROM Audio Connector:

PIN NO.	JCD_IN1
PIN 1	GND
PIN 2	Left Channel
PIN 3	GND
PIN 4	Right Channel

2-7.4 RT2 Thermal Sensor Connector



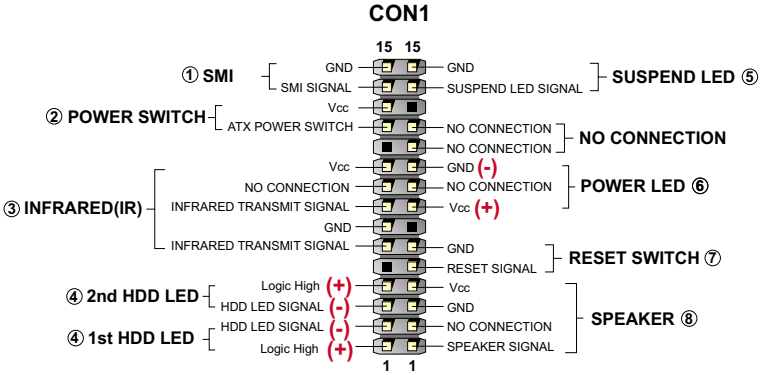
Thermal Sensor Connector (RT2):



We provide a thermal cable in the mainboard package. This thermal cable is to monitor device which will generates 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.**

2-7.5 Complex Header CON1

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



1. SMI Connector (System Management Interrupt):
CONNECTION: This 2-pin connector is connected to the case-mounted Suspend Switch.
FUNCTION: Manually placing the system into a Suspend mode or "Green" mode.

2. 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. IR Connector (Infrared Connector):
CONNECTION: Connected to Connector IR on board.
FUNCTION: Supporting wireless transmitting and receiving module on board.

4. 1st HDD LED Connector / J2 2nd HDD LED Connector:
CONNECTION: Connected to HDD LED.
FUNCTION: To supply power to HDD LED.

5. Suspend LED Connector:
CONNECTION: Connected to Suspend indicator.
FUNCTION: To supply power to "Suspend indicator".

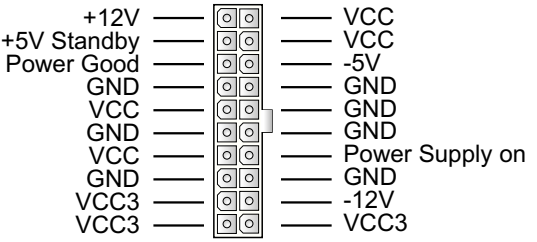
6. Power LED Connector:
CONNECTION: Connected to System Power LED.
FUNCTION: To supply power to “System Power LED”.

7. Reset Switch Connector:
CONNECTION: Connected to the case-mounted “Reset Switch”.
FUNCTION: To supply power to “Reset Switch” and support system re-boot function.

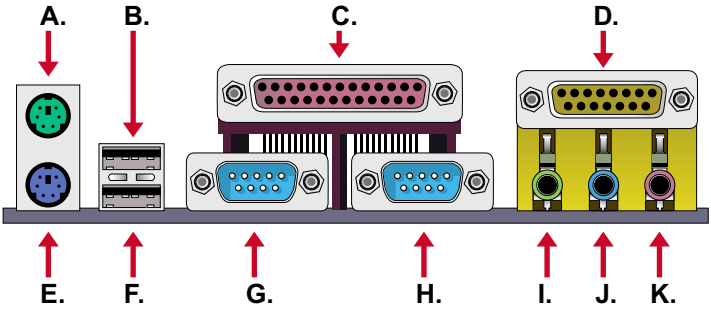
8. Speaker Connector:
CONNECTION: Connected to the case-mounted Speaker.
FUNCTION: To supply power to the case-mounted Speaker.

2-7.6 ATX Power Supply Connector

- This connector connects to an ATX power supply. The plug from the power supply should only be inserted to ATX Power connector in a specific orientation. Find the proper orientation and push it down 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.**



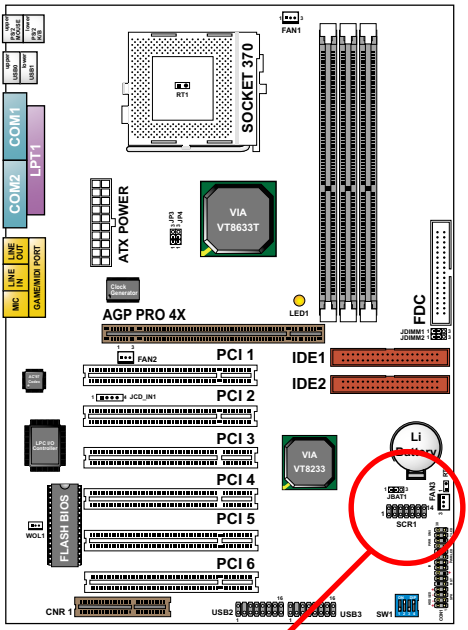
2-7.7 Chassis Panel Connectors

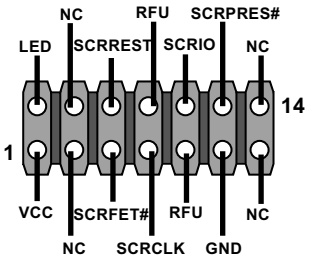


A : PS/2 MOUSE PORT
B : USB 0 PORT
C : LPT1 PORT
D : GAME/MIDI PORT
E : PS/2 KEYBOARD PORT
F : USB 1 PORT
G : COM 1 PORT
H : COM 2 PORT
I : LINE OUT / SPEAKER OUT PORT
J : LINE IN
K : MICROPHONE

2-7.8 SCR1 Smart Card Reader Connector

- 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.

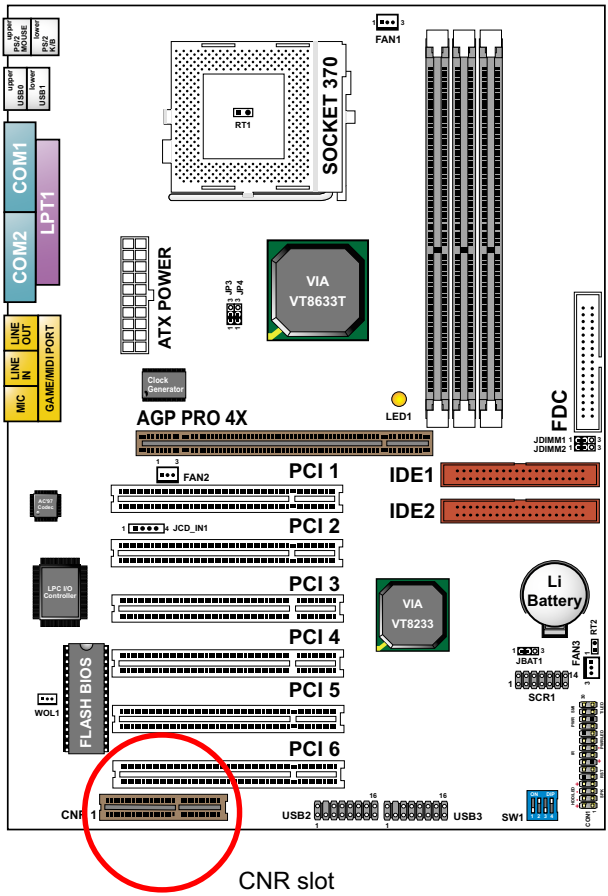




SCR1 pin assignment

2-7.9 CNR Communication And Networking Riser Slot

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

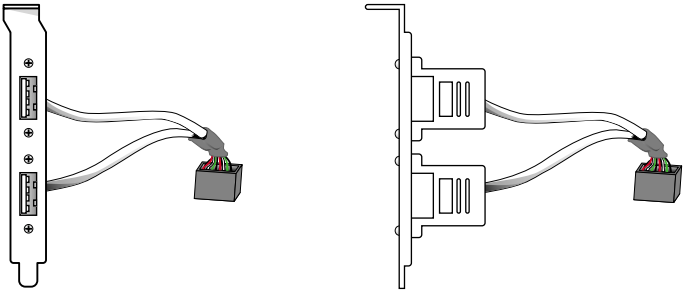


Note:

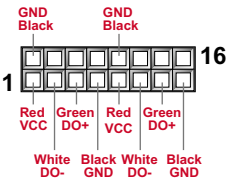
1. If modem CNR is installed, the modem CNR must be set as primary.
2. LAN CNR is not supported.
3. The audio CNR must be set as secondary, if on-chip AC 97 is enabled.
4. CNR devices are not provided with this mainboard.

2-7.10 USB Header (USB2 & USB3 Header)

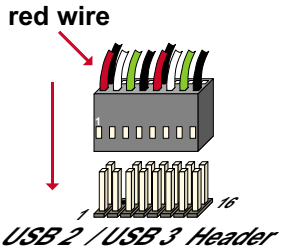
• This header is for connecting the additional USB cable to provides you additional two USB ports. User can order the additional USB cable from your mainboard dealer and vender.



Additional USB Cable (Optional)



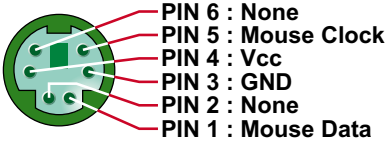
USB 2 / USB3 Header



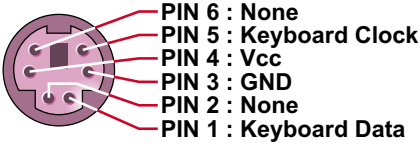
USB 2 / USB 3 Header

• When plugging the USB cable into USB2/USB3 HEADER, users must make sure the red wire is connected to the first pin.

2-7.11 PS/2 Mouse And PS/2 Keyboard



PS/2 MOUSE



PS/2 KEYBOARD

CHAPTER 3 SOFTWARE SETUP

ABOUT SUPPORT CD

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

This chapter contains the following topics :

3-1 VIA CHIPSET DRIVER INSTALLATION (4-IN-1 DRIVER)

1 • Please put the Support CD provided in your mainboard package into the CD-ROM drive.

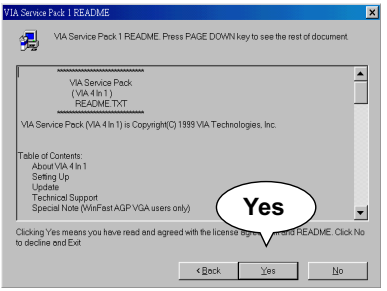
2 • When a welcome window appears on the screen, users should choose "**Install Driver**".

3 • Click on the "**VIA Chipset Driver(2)**".

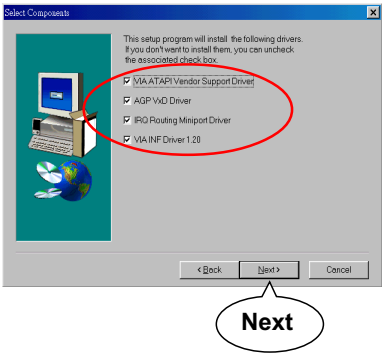
4 • Click on the "**4-in-1 driver**".

5 • Click on the "**Install via 4-in-1 driver**" to continue.

6 • When the welcome screen appears, press **"Next"** button to continue.



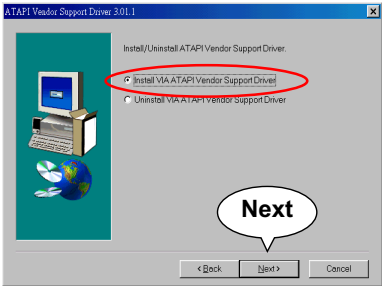
7 • **"VIA Service Pack README"** screen will appear, please click the **"Yes"** button to continue.



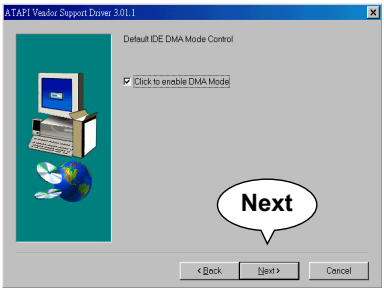
8 • Press select the checkbox as below:

- Bus Master PCI IDE Driver
- AGP VxD Driver
- VIA Chipset Function's Registry
- IRQ Routing Miniport Driver

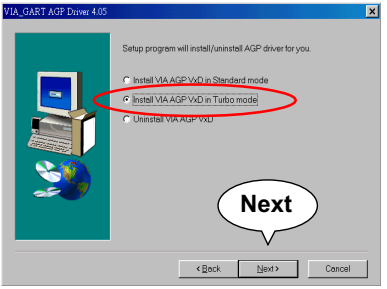
Note: *For user who is upgrading VIA Drivers, we recommend to install the 4-in-1 as it will automatically detect and update the necessary drivers.*



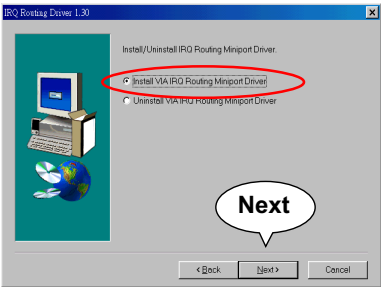
9 • Select **"Install VIA ATAPI Vendor Support Driver"** checkbox, then click the **"Next"** button to continue.



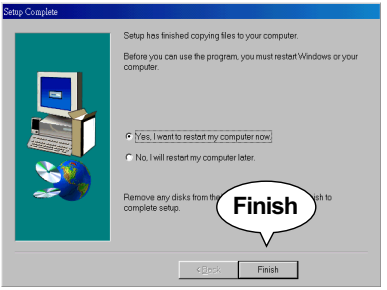
10 • Click on **"Click to enable DMA Mode"** checkbox to enable DMA function, then click the **"Next"** button to continue.



11 • Select "**Install VIA AGP VxD**" in turbo mode and press **Next** button to continue.



12 • Select "**Install VIA IRQ Routing Miniport Driver**" checkbox, then click the **"Next"** button to continue.



13 • After all these setup procedures have finished, please restart your computer by clicking on **"Finish"**.

3-2 HARDWARE MONITOR INSTALLATION

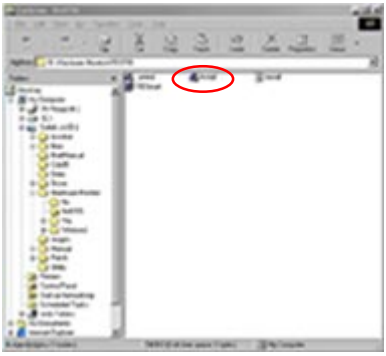
1 • Please put the Support CD provided in your mainboard package into the CD-ROM drive.

2 • When a welcome window appears on the screen, users should choose "**Install Driver**".

3 • Click on the "**VIA Chipset Driver(2)**".

4 • Click on the "**Hardware Monitor Utility**".

5 • Click on the "**Explore CD**" or user can install it through directory CD-ROM \hardware monitor utility\ITE\install.exe.



6 • When "**Exploring-ITE 8705**" window appears, please click on the file "**Install**".

7 • After which Follow the instruction on screen to complete the installation.

8 • Click on the "**OK**" button.

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

3-3 AC'97 AUDIO CODEC DRIVER INSTALLATION

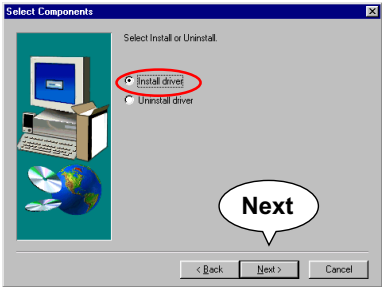
1 • Please put the Support CD provided in your mainboard package into the CD-ROM drive.

2 • When a welcome window appears on the screen, users should choose "**Install Driver**".

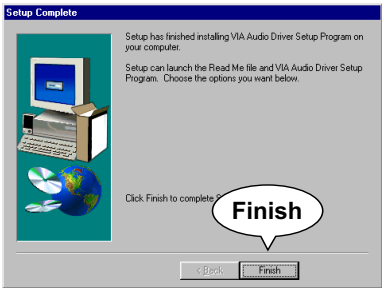
3 • Click on the "**VIA Chipset Driver(2)**".

4 • Click on the "**AC'97 driver**".

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



6 • When asking you install or remove the audio driver, please select "**Install**" and press **"Next"** button to continue.



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

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

- 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 displays 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. 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 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 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 only 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.

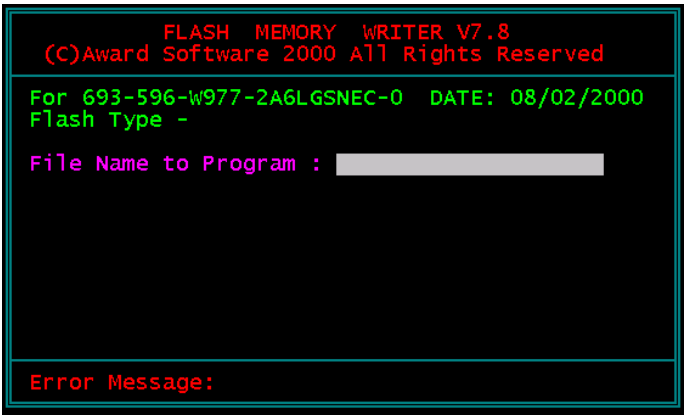
Step 2. Create a bootable diskette. Then copy the BIOS file and award flash utility "AWDFLASH.EXE" into the diskette.

Step 3. Insert the diskette into drive A, reboot your system and boot from the diskette.

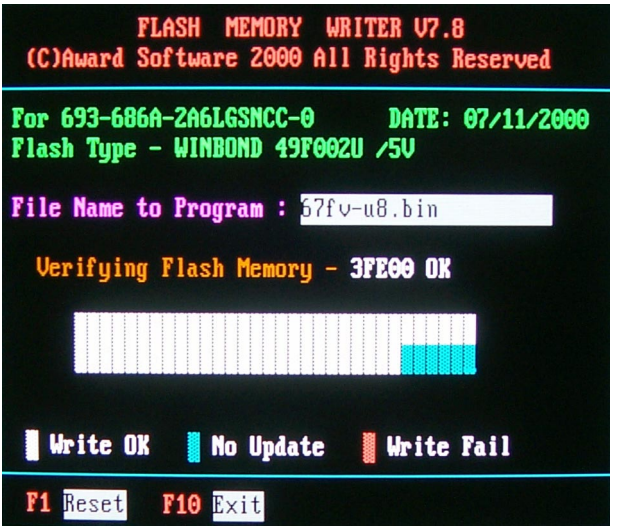
Step 4. Type **awdflash *.bin /sn/py/cc** and then press <Enter> to run BIOS upgrade program. (*.bin depends on your mainboard model and version code. Instead of typing "*", you should type specific file name for your specific mainboard).

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 <Del> to run CMOS setup utility, then reload "LOAD SETUP DEFAULTS" or **"Load Optimized Defaults"** and save this change.



Award Flash Memory Writer Start Screen



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 user to leave parameters alone unless you fully understand their function.*

4-6 BIOS SETUP --- CMOS SETUP UTILITY

4-6.1 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 <DEL> TO ENTER SETUP

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

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

▸ Standard CMOS Features	▸ Frequency/Voltage Control
▸ Advanced BIOS Features	Load Optimized Defaults
▸ Advanced Chipset Features	Set Supervisor Password
▸ Integrated Peripherals	Set User Password
▸ Power Management Setup	Save & Exit Setup
▸ PnP/PCI Configurations	Exit Without Saving
▸ SmartDoc Anti-Burn Shield	
Esc : Quit	↑↓→← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
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.

4-6.2 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 screen with a list of options will appear:

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

Date (mm:dd:yy)	Mon, January 15 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	None	
Drive B	None	
Video	EGA/VGA	
Halt On	All,But Keyboard	
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.

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.

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

IDE HDD Auto-Detection	Press Enter	Item Help
IDE Secondary 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

Drive A / Drive B Select 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 Select the type of primary video subsystem in your computer. The BIOS usually detects the correct video type automatically. The BIOS supports a secondary video subsystem, but you do not select it in setup.

Halt On During the power-on self-test (POST), the computer stops if the BIOS detects a hardware error. You can tell the BIOS to ignore certain errors during POST and continue the boot-up process.

Base Memory Typically 640KB. Also called conventional memory. The DOS operating system and conventional applications use this area.

Extended Memory Above the 1MB boundary. Early IBM personal computers could not use memory above 1MB, but current PCs and their software can use extended memory.

Total Memory This option shows system memory capacity.

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

4-6.3 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 screen with a list of options will appear:

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	
Video BIOS Shadow	Enabled	

↑↓→←: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. An explanation of the <F> keys follows:

<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.

Virus Warning When enabled, you receive a warning message if a program (specifically, a virus) attempts to write to the boot sector or the partition table of the hard disk drive. You should then run an antivirus program. Keep in mind that this feature protects only the boot sector, not the entire hard drive.

NOTE: *Many disk diagnostic programs that access the boot sector table can trigger the virus warning message. If you plan to run such a program, we recommend that you disable the virus warning.*

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 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.

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 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 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. If On, the numeric keypad is in numeric mode. If off, the numeric keypad is in cursor control mode.

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

Video BIOS Shadow Performance will be improved by copying Video BIOS to Shadow RAM.

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

4-6.4 ADVANCED CHIPSET FEATURES

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

Run the ADVANCED CHIPSET FEATURES as follows:

1. Choose “ADVANCED CHIPSET FEATURES” from the Main Menu and a list of option will appear:

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

▸ DRAM Colck/Drive Control	Press Enter	Item Help
▸ AGA & P2P Bridge Control	Press Enter	Menu Level ▸
▸ CPU & PCI Bus Control	Press Enter	
Memory Hole	Disabled	
System BIOS Cacheable	Disabled	
Video RAM Cacheable	Disabled	
Memory Parity/ECC Check	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. An explanation of the <F> keys follows:

<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.

DRAM CLOCK/DRIVE CONTROL

• When this option is chosen, the following item appears for user's configuration.

CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
DRAM Clock/Drive Control

		Item Help
Current FSB Frequency		Menu Level ▸
DRAM Clock	By SPD	
DRAM Timing	By SPD	
× SDRAM Cycle Length	3	
× Bank Interleave	Disabled	
DRAM Command Rate	2T Command	

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

*** Current FSB Frequency** This item allows you to control the FSB Frequency.

*** DRAM Clock** The value represents the performance parameters of the installed memory chips (DRAM). Do not change the value from the factory setting unless you install new memory that has a different performance rating.

*** DRAM Timing** When this item Enabled, DRAM Timing is set by SPD.
SPD (Serial Presence Detect) is located on the memory modules, BIOS reads information coded in SPD during system boot up.

*** SDRAM Cycle Length** Select CAS latency time in HCLKs of 2 or 3. The system designer already set the values. Do not change the default value unless you change specifications of the installed DRAM or the installed CPU.

*** Bank Interleave** The choices: Disabled; 2 Bank; 4 Bank.

*** DRAM Command Rate** The choices: Disabled; 2 Bank; 4 Bank.

AGP & P2P BRIDGE CONTROL

• When this option is chosen, the following item appears for user's configuration.

CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
AGP & P2P Bridge Control

		Item Help
AGP Aperture Size	64M	Menu Level ▸
AGP Mode	2X	
AGP Driving Control	Auto	
× AGP Driving Value	DA	
AGP Fast Write	Disabled	
AGP Master 1 WS Write	Disabled	
AGP Master 1 WS Read	Disabled	

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

*** AGP 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.

*** AGP Mode** This item allows you to select AGP Mode. The choices: 1x, 2x, 4x.

*** AGP Driving Control** This item allows you to adjust the AGP driving force. Choose Manual to key in a AGP Driving Value in the next selection. This field is recommended to set in Auto for avoiding any error in your system.
The choices: Manual; Auto.

*** AGP Driving Value** This item allows you to adjust the AGP driving force.
The choices: Min=0000 ~ Max=00FF.

*** AGP Fast Write** This item will enable the AGP model into fast write mode. If your graphics card does not support this function, please do not enable this function.

*** AGP Master 1 ws write** Leave this field at default.

*** AGP Master 1 ws read** Leave this field at default.

CPU & PCI BUS CONTROL

• When this option is chosen, the following item appears for user's configuration.

CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
CPU & PCI Bus Control

CPU to PCI Write Buffer	Enabled	Item Help
PCI Master 0 WS Write	Enabled	Menu Level ▸
PCI Delay Transaction	Enabled	

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

*** CPU to PCI Write Buffer** When this field is Enabled, writes from the CPU to the PCI bus are buffered, to compensate for the speed differences between the CPU and the PCI bus. When Disabled, the writes are not buffered and the CPU must wait until the write is complete before starting another write cycle.
The choices: Enabled; Disabled.

*** PCI Master 0 WS Write** When Enabled, writes to the PCI bus are executed with zero wait states.
The choices: Enabled, Disabled.

*** PCI Delay Transaction** Leave this field at default

Memory Hole In order to improve performance, certain space in memory is reserved for ISA cards. This memory must be mapped into the memory space below 16MB. The choices: 15M-16M; Disabled.

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

Video RAM Cacheable Selecting Enabled allows caching of the video memory (RAM) at A0000h-AFFFFh, resulting in better video performance. However, check your AGP manual to find out if any compatibility problem exists.

Memory Parity/ECC Check This item enabled to detect the memory parity and Error Checking & Correcting.
The choices: Enabled, Disabled.

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

4-6.5 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:

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

▸VIA OnChip IDE Device	Press Enter	Item Help
▸VIA OnChip PCI Device	Press Enter	Menu Level ▸
▸VIA SuperIO Device	Press Enter	
Init Display First	PCI Slot	
OnChip USB Controller	Enabled	
USB keyboard Support	Disabled	
IDE HDD Block Mode	Enabled	

↑↓→←: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. An explanation of the <F> keys follows:

<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.

VIA ONCHIP IDE DEVICE

• When this option is chosen, the following item appears for user's configuration.

CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
VIA OnChip IDE Device

		Item Help
OnChip IDE Channel0	Enabled	Menu Level ▸
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 Master UDMA	Auto	
Secondary Slave UDMA	Auto	

↑↓→←: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 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 inactivate an interface if you install a primary and/or second add-on IDE interface.
The choices: Enabled; Disabled.

*** IDE Prefetch Mode** The on-board IDE drive supports IDE perfecting for faster drive accesses. If the IDE device doesn't support perfecting, set this field to Disabled.
The choices: 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 supports Ultra DMA33/66/100. Select "Auto" to enable BIOS support.
The choices: Auto; Disabled.

VIA ONCHIP PCI DEVICE

- When this option is chosen, the following item appears for user's configuration.

CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
VIA OnChip PCI Device

VIA-3058 AC'97 Audio	Auto	Item Help
VIA-3068 MC97 Modem	Disabled	Menu Level ▸

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

*** VIA-3058 AC'97 Audio** Select *"Disabled"* to use the on-chip audio capability of your system. Most of the field do not appear when this field is "Disabled", for user who wants to use add-on sound card, this item must be disabled.

*** VIA-3068 MC97 Modem** This option allows you to decide to enable/disable the Onchip Modem.
The choices: Auto; Disabled.

VIA SUPERIO DEVICE

• When this option is chosen, the following item appears for user's configuration.

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

		Item Help
Onboard FDC Controller	Enabled	Menu Level ▸
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	
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

*** 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 / Port 2** Select a logical COM port name and matching address for the first and second serial ports. Select an address and corresponding interrupt for the first and second serial ports.

*** UART Mode Select** The second serial port on your system may offer a variety of infrared port modes. Click here for a description of various modes. (Click your browser's Back button, or your right mouse button, to return to this page.)
The choices: Standard; HPSIR; ASKIR

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

*** Onboard Parallel Port** This item allows you to determine onboard parallel port controller I/O address setting.
The choices: 378H/IRQ7; 278H/IRQ5; 3BC/IRQ7; Disabled.

*** Parallel Port Mode** Select an operating mode for the on-board 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 port.

*** Game Port Address** This item allows you to select the Game Port Address.
The choices: Disabled, 201, 209

*** MIDI Port Address** Select a DMA channel for the parallel port for use during ECP mode.
The choices: Disabled, 330, 300

*** MIDI Port IRQ** This item allows you to select the MIDI Port IRQ.
The choices: 5, 10

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.

OnChip 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.

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.

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

4-6.6 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:

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

ACPI Function	Enabled	Item Help
ACPI Suspend Type	S1(POS)	Menu Level ▸
Power Management	User Define	
HDD Power Down	Disabled	
Suspend Mode	Disabled	
Video Off Option	Suspend->Off	
Video Off Method	V/H SYNC+Blank	
MODIM Use IRQ	3	
Soft-Off by PWR-BTTN	Instant-Off	
State After Power Failure	Off	
▸ IRQ/Event Activity Detect	Press Enter	

↑↓→←: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. An explanation of the <F> keys follows:

<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 supports ACPI.

ACPI Suspend Type This item allows 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 choices: 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 period 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).

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

Suspend Mode After the selected period of system inactivity, the chipset enters a hardware suspend mode, stopping the CPU clock and possibly causing other system devices to enter power management modes.

Video Off Option When enabled, this feature allows the VGA adapter to operate in a power saving mode.

Always On	Monitor will remain on during power saving modes.
Suspend -->Off	Monitor blanked when the systems enters the Suspend mode.
All Modes -->Off	Monitor blanked when the system enters either Suspend or Standby modes.

Video Off Method This determines the manner by 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 Supports	Select this option if you monitor supports the Display Power Management Signaling (DPMS) standard of the Video Electronics Standards to select video power management values.

MODEM Use IRQ Name the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system.
The choices: 3; 4; 5; 7; 9; 10; 11; NA.

Soft-Off by PWRBTN When Enabled, turning the system off by pressing the on/off button places the system in a very low-power-usage state.

State After Power Failure This field lets you determine the state that your PC returns to after a power failure.
The choices: On, Off, Auto

IRQ/EVENT ACTIVITY DETECT

• When this option is chosen, the following item appears for user's configuration.

CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
IRQ/Event Activity Detect

VGA	OFF	Item Help
LPT & COM	LPT/COM	Menu Level ▸
HDD & FDD	ON	
PCI Master	OFF	
PowerOn by PCI Card	Disabled	
Modem Ring Resume	Disabled	
RTC Alarm Resume	Disabled	
× Date (of Month)	0	
× Resume (hh:mm:ss)	0 0 0	
▸ IRQs Activity Monitoring	Press Enter	

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

*** VGA** When Enabled, you can set the VGA awakens the system

*** LPT & COM** When LPT & COM is ON, any activity from one of the listed system peripheral devices or IRQs wakes up the system.

*** HDD & FDD** When HDD & FDD is ON, any activity from one of the listed system peripheral devices wakes up the system.

*** PCI Master** When PCI Master is ON, any activity from one of the listed system peripheral devices wakes up the system.

*** PowerOn by PCI Card** This item allows system wake up by PCI Device.

*** 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 Resume** When Enabled, you can set the data and time at which the RTC (Real Time Clock) alarm awakens the system from suspend mode.
The choices: Disabled (default); Enabled.

*** 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.

* IRQ ACTIVITY MONITORING

• When this option is chosen, the following item appears for user's configuration.

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

Primary INTR	ON	Item Help
IRQ-3 (COM2)	Enabled	Menu Level ▸
IRQ-4 (COM1)	Enabled	
IRQ-5 (LPT2)	Enabled	
IRQ-6 (Floppy Disk)	Enabled	
IRQ-7 (LPT1)	Enabled	
IRQ-8 (RTC Alarm)	Disabled	
IRQ-9 (IRQ2 Redir)	Disabled	
IRQ-10 (Reserved)	Disabled	
IRQ-11 (Reserved)	Disabled	
IRQ-12 (PS/2 Mouse)	Enabled	
IRQ 13 (Coprocessor)	Disabled	
IRQ 14 (Hard Disk)	Enabled	
IRQ 15 (Reserved)	Disabled	

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

IRQ Activity Monitoring 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.

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

4-6.7 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 screen with a list of options will appear:

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

		Item Help
PNP OS Installed	No	Menu Level ▸
Reset Configuration Data	Disabled	
Resources Controlled By	Auto(ESCD)	
× IRQ Resources	Press Enter	
PCI/VGA Palette Snoop	Disabled	
Assign IRQ For VGA	Enabled	
Assign IRQ For USB	Enabled	
PCI SLOT1/5 IRQ Assigned	Auto	
PCI SLOT2/6 IRQ Assigned	Auto	
PCI SLOT3 IRQ Assigned	Auto	
PCI SLOT 4 IRQ Assigned	Auto	

↑↓→←: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. An explanation of the <F> keys follows:

<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.

PNP OS Installed Select Yes if the system operating environment is Plug-and-Play aware (e.g., Windows95).

> ***NOTE:*** *BIOS will automatically disable all PnP resources except the boot device card when you select Yes on Non-PnP operating system.*

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 The Plug and Play AwardBIOS can automatically configure all the boot and Plug and Play-compatible devices. If you select *Auto*, all the interrupt request (IRQ) and DMA assignment fields disappear, as the BIOS automatically assigns them.

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

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

IRQ-3	assigned to	PCI/ISA PnP
IRQ-4	assigned to	PCI/ISA PnP
IRQ-5	assigned to	PCI/ISA PnP
IRQ-7	assigned to	PCI/ISA PnP
IRQ-9	assigned to	PCI/ISA PnP
IRQ-10	assigned to	PCI/ISA PnP
IRQ-11	assigned to	PCI/ISA PnP
IRQ-12	assigned to	PCI/ISA PnP
IRQ-14	assigned to	PCI/ISA PnP
IRQ-15	assigned to	PCI/ISA PnP

Item Help
Menu Level ▸

↑↓→←: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.

Assign IRQ for VGA Select *Enabled* if you system has a VGA controller and you have one or more VGA devices connected. If you are not using your system's VGA controller, select *Disabled* to free the IRQ resource.

Assign IRQ for USB Select *Enabled* if you system has a USB controller and you have one or more USB devices connected. If you are not using your system's USB controller, select *Disabled* to free the IRQ resource.

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

4-6.8 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 values about the setting of the CPU temperature.

Run the "SMARTDOC ANTI-BURN SHIELD" as follows:

1. Choose "SMARTDOC ANTI-BURN SHIELD" from the Main Menu and a screen with a list of options will appear:

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

Shutdown Temperature	60°C/140°F	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		

↑↓→←: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.

Shutdown Temperature This feature prevents your CPU from damage by over heat. If the CPU's temperature is higher than "CPU warning temperature" that you select in this field, the BIOS will shut down your system within 3 seconds.

CPU Vcore Shows CPU core actual voltage value.

DDR DIMM Shows DDR DIMM actual voltage value.

Voltage Shows power supply actual voltage value.

System Temperature Shows current system temperature.

CPU Temperature Shows current CPU temperature.

FAN 1 Speed These fields display the current speed of the CPU fan, if your computer contains a monitoring system.

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

4-6.9 FREQUENCY/VOLTAGE CONTROL

Run the “FREQUENCY/VOLTAGE CONTROL” as following:

1. Choose “FREQUENCY/VOLTAGE CONTROL” from the Main Menu and a screen with a list of options will appear:

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

CPU Vcore Select	Default	Item Help
Auto Detect DIMM/PCI CLK	Enabled	Menu Level ▸
Spread Spectrum	Disabled	
CPU Clock	100	
CPU Ratio	X 3	

↑↓→←: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.

CPU Vcore Select This item allows you to adjust the CPU core Voltage. Using higher CPU core Voltage may help, when overclocking but may in shortening of your processor's lite. It is strongly recommended that you leave this item at default.

Auto Detect DIMM/PCI CLK To reduce the occurrence of electromagnetic interference (EMI), the BIOS detects the presence or absence of components in DIMM and PCI slots and turns off system clock generator pulses to empty slots.

Spread Spetrum When the system clock generator pulses, the extreme values of the pulse generate excess EMI. Enabling pulse spectrum spread modulation changes the extreme values from spikes to flat curves, thus reducing EMI. This benefit may in some cases be outweighed by problems with timing-critical devices, such as a clock-sensitive SCSI device.

CPU Clock This items allows users to adjust CPU frequency.

CPU Ratio This item allows you to select the CPU ratio, if CPU clock Ratio is locked, the function will have no effect.

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

4-6.10 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.

4-6.11 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 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.*

4-6.12 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.

4-6.13 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 .

MEMO

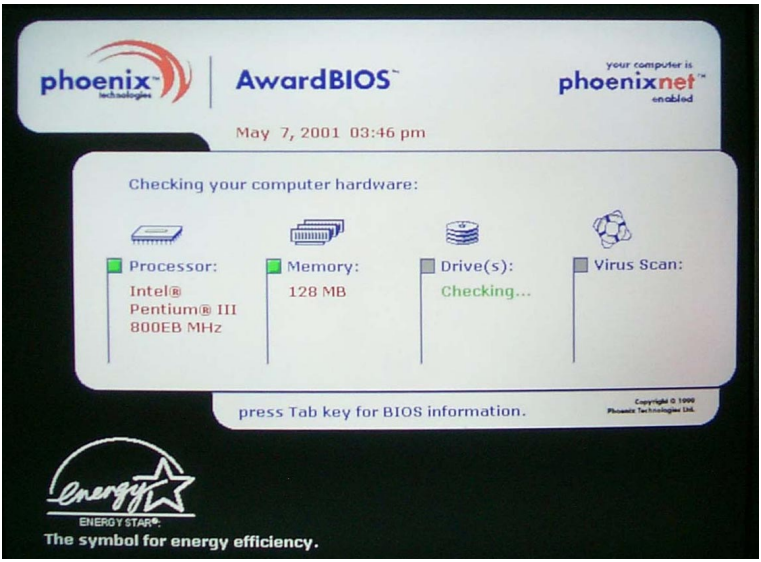
APPENDICES

APPENDIX-1 TECHNICAL TERMS

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
ESCD	Extended System Configuration Data
ECC	Error Check and Correct
EPP	Exhanced 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	Local Emitting Diode
MHz	Megahertz
PNP	Plug & Play
USB	Universal Serial Bus
VCM	Virtual Channel Memory

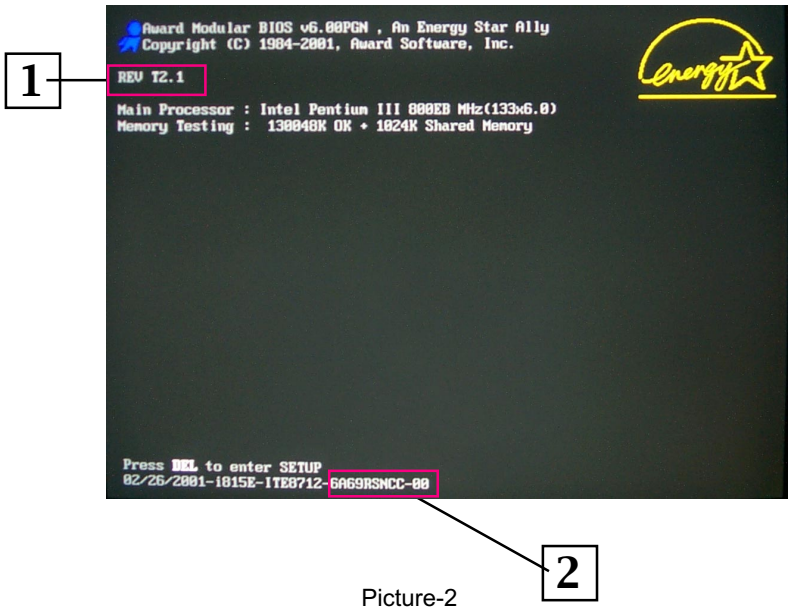
APPENDIX-2 IDENTIFYING BIOS VERSION AND BIOS PART NUMBER

- When you boot up your computer, you may see a screen which shows your computer is phoenixnet™ enabled. Please see Picture-1 below for an illustration.
- When the screen shows up press “Tab” key for BIOS information.



Picture-1

• See Picture-2 below for BIOS version and BIOS part number identification.



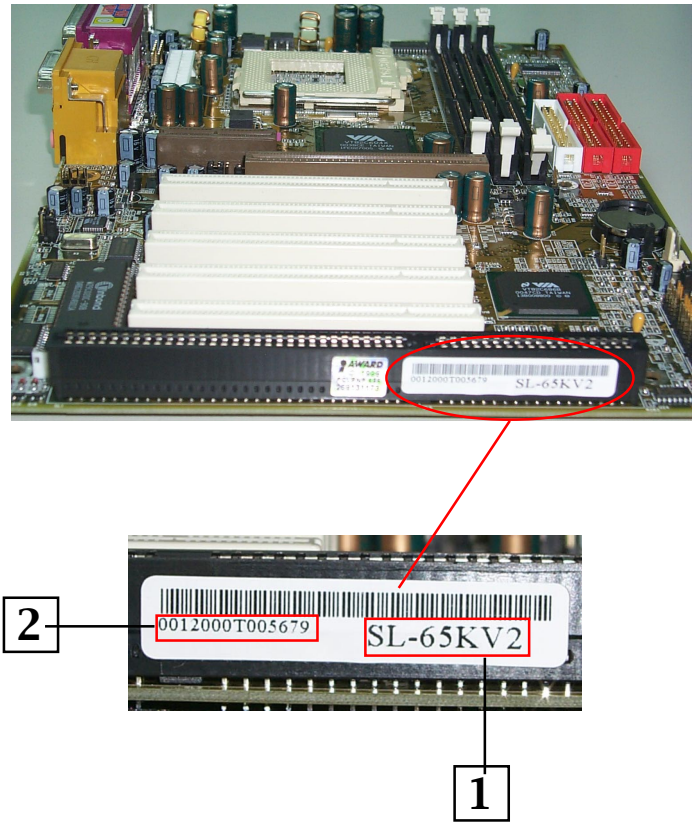
Picture-2

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 side of slot or PCI slot. Please see the picture below as an illustration:



1. MAINBOARD MODEL NUMBER
example: SL-65KV2

2. MAINBOARD SERIAL NUMBER
example: 0012000T005679

MEMO