



The Soul Of Computer Technology

SL-65EP/65EP+ V1.0

USER MANUAL

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USER NOTICE

This Users Guide & Technical Reference is for assisting system manufacturers and end-users in setting up and installing the motherboard.

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CHAPTER 1

INTRODUCTION

1-1 ITEM LIST CHECKUP

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

1-2 CPU

- Supports Intel® FC-PGA Pentium !!!™ up to 1GHz or above.
- Supports Intel® FC-PGA 370 Celeron & PGA 370 Celeron up to 800MHz or above.
- Supports VIA Cyrix !!! up to 733MHz or above.
- Supports CPU voltage Auto-Detect circuit.

1-3 CHIPSET

- INTEL 82815EP Memory Controller Hub (MCH) & INTEL 82801BA I/O Controller Hub (ICH2)
- ITE 8712 EC-LPC I/O chip

1-4 INTEGRATED SDRAM CONTROLLER

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

1-5 BIOS

- Award BIOS 6.0
- Supports Plug & Play V1.0.
- FLASH MEMORY for easy upgrade.
- Supports BIOS writing protection.
- Year 2000 compliant.

1-6 FULL FEATURED ACCELERATED GRAPHICS PORTS(AGP) CONTROLLER

- Provides 1x/ 2x/ 4x AGP controller
- AGP v2.0 compliant

1-7 MULTI-I/O FUNCTION

- Integrated IDE Controller:
Supports Ultra ATA100/66/33, BMIDE and PIO modes Universal Serial Bus connector:
USB v1.1 compliant
Provides 2 build-in USB ports (another 2 internal USB ports for extensible purpose require an optional USB connect cable).
- 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:
Standard mode, ECP and EPP support.
- Floppy Disk connector:
One FDDs with drive swap support.
- Universal Serial Bus connector:
USB V1.1 compliant.
Provides 2 build-in USB ports (another 2 internal USB ports for extensible purpose require an optional USB connect cable).
- PS/2 Keyboard connector.
- PS/2 Mouse connector.

1-8 EXTENSION SLOTS

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

1-9 FORM FACTOR

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

1-10 SOUND CONTROLLER

- Build-in AC'97 Audio codec (for 65EP only).
- Build-in creative CT5880 Audio chip (for 65EP+ only).

1-11 POWER MANAGEMENT

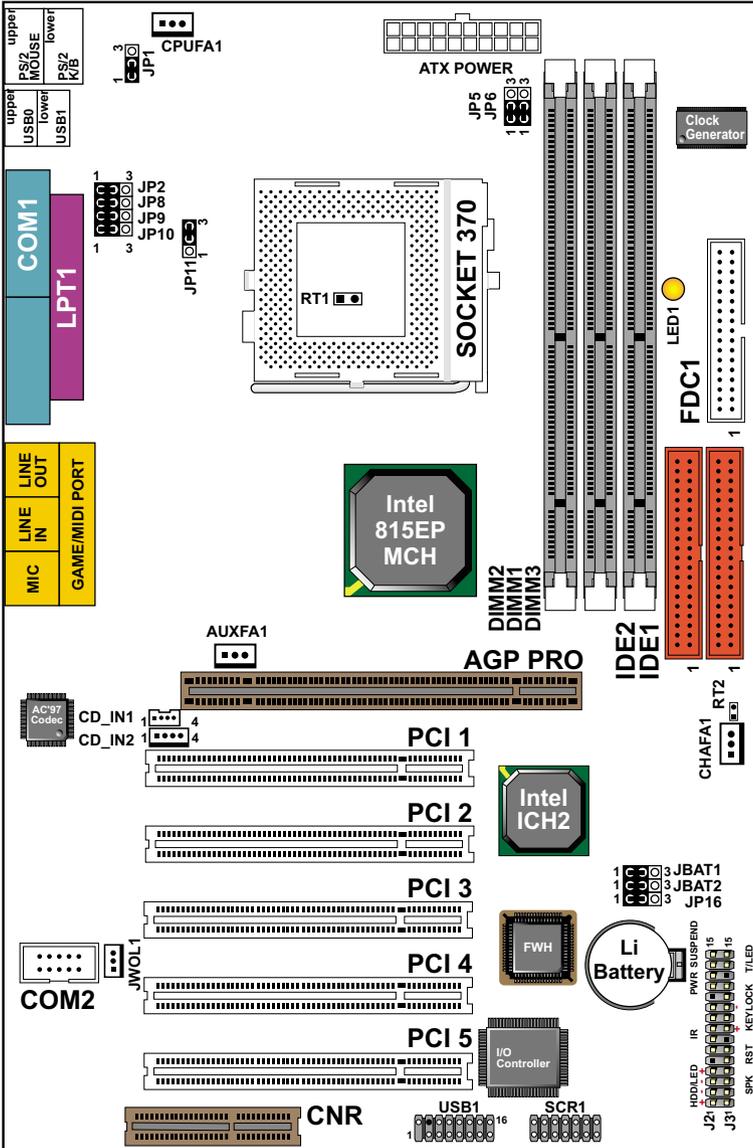
- ACPI 1.0 compliant (Advanced Configuration and Power Interface).
- APM V1.2 compliant (Legacy power management).
- Supports ACPI suspend STR mode (Suspend To DRAM) and POS mode (Power On Suspend).
- System event monitoring with two event classes.
- Supports PS/2 Keyboard & Mouse power on.
- Supports Wake On LAN (WOL) & Wake On Modem.
- Supports real time clock (RTC) with date alarm, month alarm, and century field.
- USB wake-up Function.

1-12 HARDWARE MONITORING

- Programmable control, status, monitor and alarm for flexible desktop management (software included).
- 5-positive voltage.
- 2-temperature monitoring.
- 3 Fan-speed monitoring.

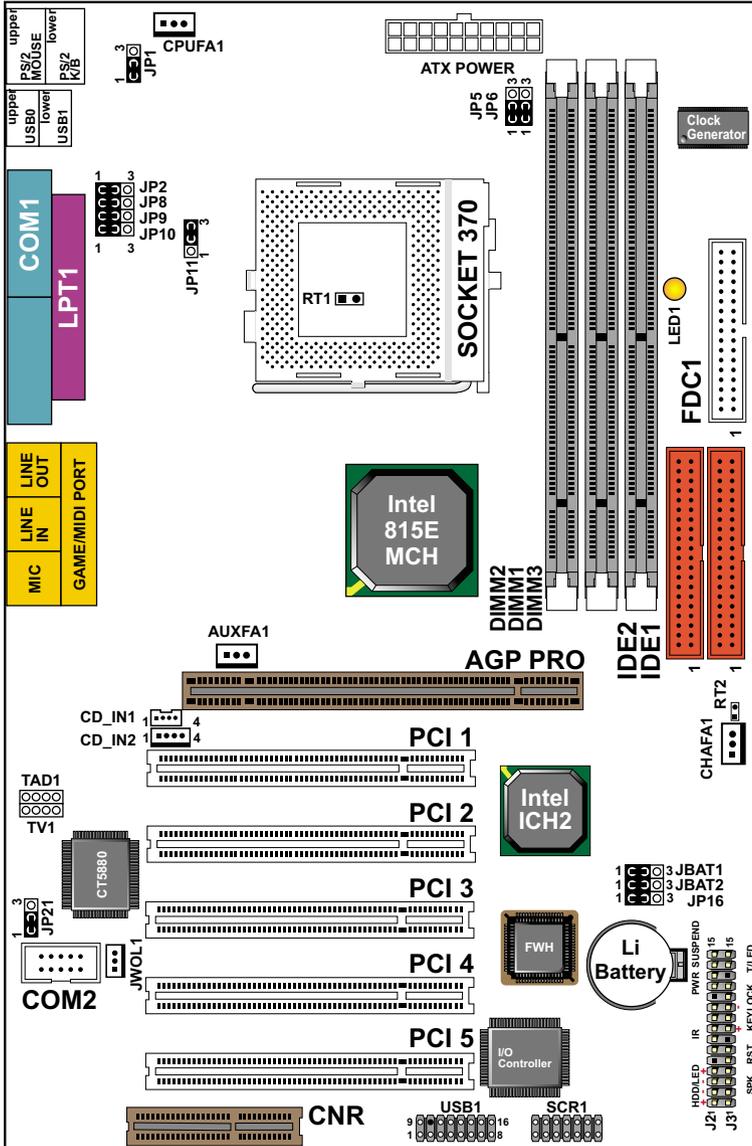
1-13.1 MOTHERBOARD LAYOUT --- 65EP

- Default Setting: Intel Celeron 300A/66 MHz



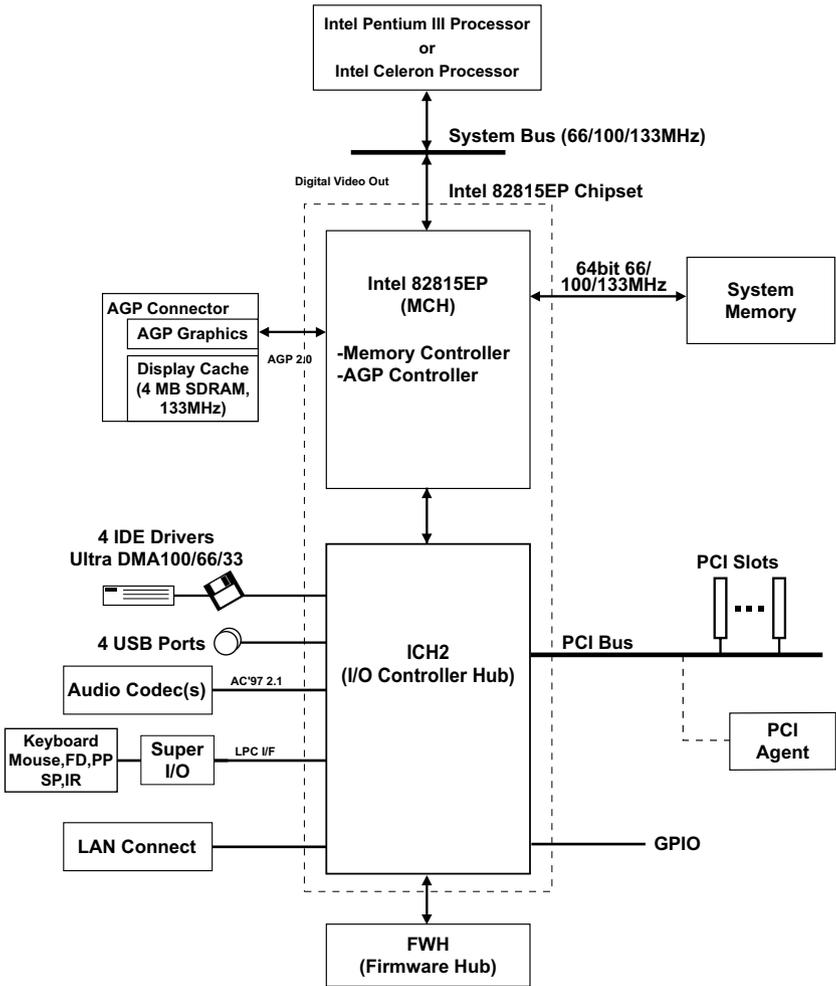
1-13.2 MOTHERBOARD LAYOUT --- 65EP+

- Default Setting: Intel Celeron 300A/66 MHz



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

1-14 CHIPSET SYSTEM BLOCK DIAGRAM



Intel 82815EP MCH Chipset Diagram

1-15 MOTHERBOARD SPECIFICATION TABLE OF 65EP & 65EP+

Model	65EP	65EP+
Memory Controller Hub	Intel 82815EP (MCH)	
I/O Controller Hub	Intel 82801BA (ICH2)	
LPC I/O Chip	ITE 8712	
Memory	Supports PC133 and PC100 SDRAM up to 512GB 3 DIMM Slots	
AGP Interface	AGP 4X Pro Mode	
Audio	On-Chip AC'97	Creative CT5880
IDE	2 x ATA 33/66/100 IDE ports	2 x ATA 33/66/100 IDE ports
I/O	4 x USB ports, 1 x FDD port, 2 x COM ports, 1 x LPT port, 1 IrDA, 1 PS/2 Mouse, 1 PS/2 K/B	
PCI slot	5 PCI Master Slots	
CNR slot	1 x CNR slot	
Smart card reader support	Yes* (Provides a Smart Card Reader connector)	
Hardware Monitoring	Yes	
BIOS writing Protection	Yes	
Keyboard power on function & USB wake up Function	Yes	
Remark		

ATTENTION !!!

1. Please refer to your processor installation or other documentation attached with your CPU for detailed installing instruction.
2. Installing a heat sink and cooling fan is necessary for proper heat dissipation from your CPU. Uncorrected 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. Uncorrected setting may cause damage to your CPU.

CHAPTER 2

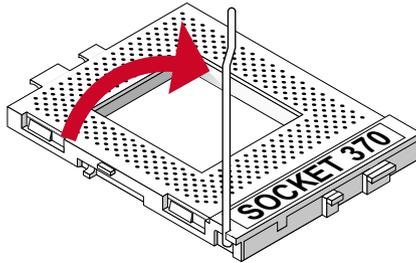
HARDWARE SETUP

2-1 CPU INSTALLATION

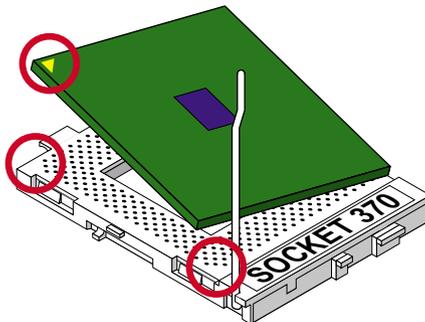
WARNING !!!

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

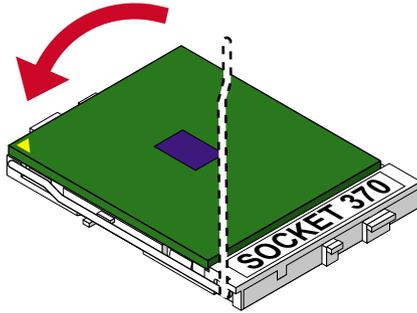
1. Pull the lever sideways away from the socket, and then raise the lever up to a 90-degree angle.



2. Take note of the red circle as below picture. When insert the CPU into socket, you can find out there is a definite pin orientation for CPU and socket.



3. Make sure that the CPU positions in the socket tightly, and then put the lever down to complete the CPU installation.



2-2 CPU FREQUENCY

- The CPU's "CPU CLOCK RATIO" and "**CPU HOST/PCI CLOCK**" settings are automatically detected to be default value by BIOS in the "Frequency/Voltage Control" section.
- We do not suggest and assume the responsibility for any action that changes the CPU default setting such as overclocking. Uncorrect **CLOCK RATIO** and **HOST/PCI CLOCK** settings may cause damage to your CPU.

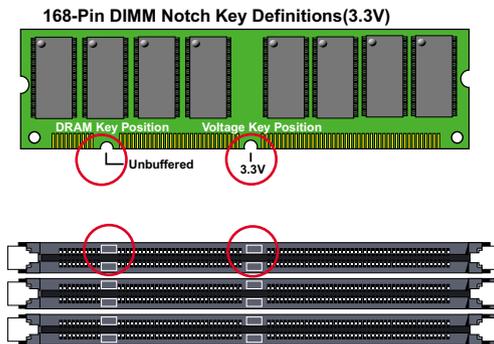
2-3 MEMORY INSTALLATION

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 motherboard 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 FPM DRAM. These DIMM types are incompatible with the motherboard, the M/B only supports 3.3V Non-ECC SDRAM DIMMs.

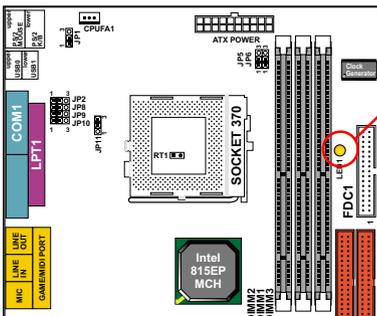
Installing DIMM:

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



Removing:

- Press the holding clips on both sides of socket out ward to release the DIMM, Gently pull the DIMM out of the socket.



NOTICE : When LED1 light is on , meaning that 3.3V is conducting DIMM slots , please do not add or remove memory modules .

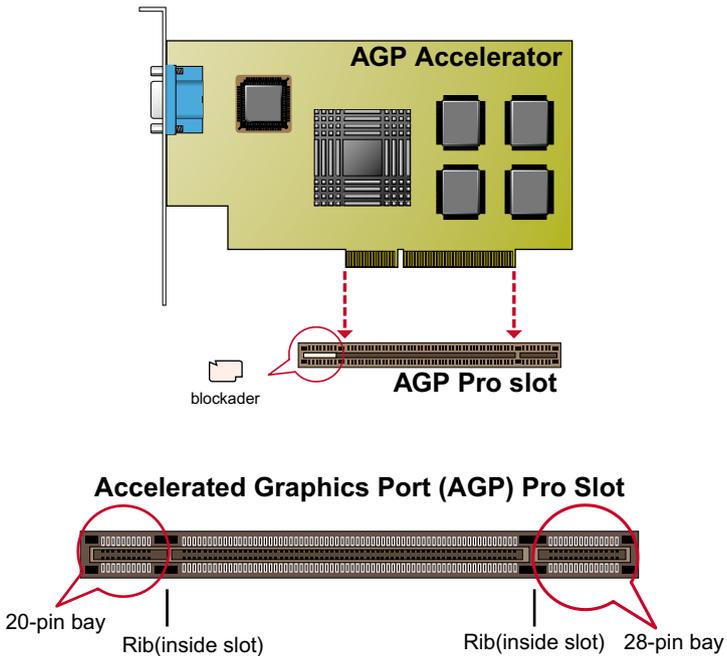
2-4 SUPPORTED SYSTEM BUS AND SYSTEM MEMORY BUS FREQUENCIES TABLE

- The 82815EP MCH 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

2-5 ACCELERATED GRAPHICS PORT(AGP) PRO INSTALLATION

- The AGP Pro slot is an extension of the existing AGP slot and it accepts existing AGP Card.

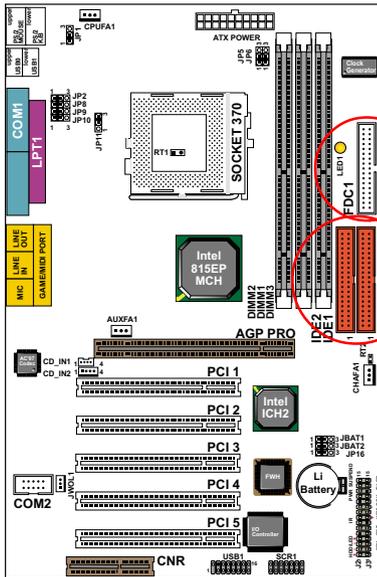


CAUTION!!

The AGP Pro slot is shipped with a warning label over the 20-pin bay. Do not remove this label and the safety tab underneath it if you will be using an AGP card without a retention notch. Removing may cause the card to shift and may cause damage to your card, slot, and motherboard. Remove ONLY when you will be using an AGP Pro card.

2-6 HDD/FDD INSTALLATION

- To install HDD (Hard Disk Drive), you may connect the cable's blue connector to the motherboard'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.
- To install FDD (Floppy Disk Drive), you may connect the single end to the board, and connect two plugs on the other end to the floppy drives.



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

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

2-7 JUMPER DEFINITION

- The figure below shows the location of the motherboard's jumper blocks.

CAUTION

- Do not move the jumper with the power on. Always turn off the power and unplug the power cord from the computer before changing the jumper. Otherwise, the motherboard could be damaged.

2-7.1 ONBOARD FAN (CPUFAN1/AUXFA1/CHAFA1)

CPUFA1/AUXFA1/CHAFA1: ONBOARD FAN (12V)	
CPU FAN	CPUFA1 
SYSTEM FAN	AUXFA1 
CHASSIS FAN	CHAFA1 

Those connectors support processor/system/chassis cooling fan with +12V. Those support three pin head connector. When connecting the wire to FAN connectors, user should give attention that the red wire is the positive and should be connected to the +12V, the black wire is Ground and should be connected to GND. If your motherboard 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 fan speed sensor, every rotation of the fan will send out 2 pulses. System Hardware Monitor will count and report 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 KEYBOARD POWER ON (JP1)

JP1: KEYBOARD POWER ON	
Disabled (default)	JP1 
Enabled	JP1 

2-7.3 BUS CLOCK SELECT (JP5/JP6)

JP5/JP6: BUS CLOCK SELECT	
66MHz / 100MHz / 133MHz Auto Select (default)	
100MHz	
133MHz	

2-7.4 USB PORT SELECT(1) (JP2/JP8)

JP2/JP8: USB PORT SELECT (1)	
Redirect USB port 0 to USB connector (default)	
Redirect USB1 to AGP port	

2-7.5 USB PORT SELECT(2) JP9/JP10

JP9/JP10: USB PORT SELECT (2)	
Redirect USB port 1 to USB π connector (default)	
Redirect USB1 to CNR port	

2-7.6 USB WAKE UP FUNCTION (JP11)

JP11: USB WAKE UP FUNCTION	
Disabled (default)	
Enabled	

NOTE : This Function allows you to use USB mouse or keyboard to wake up the system and it also allows "USB keyboard wake up from S3 (Suspend To RAM). The function must be set in junction with "USB keyboard wake up from S3" that states in BIOS setup "Power Management Setup" section.

2-7.7 ONBOARD CREATIVE SOUND SELECT (JP21)

JP21: ONBOARD CREATIVE SOUND SELECT	
Enabled (default)	JP21 
Disabled	JP21 

NOTE: This jumper is only for **65EP+**.

2-7.8 CLEAR CMOS DATA (JBAT1/JBAT2)

JBAT1/JBAT2: CLEAR CMOS DATA	
Clear CMOS Data	JBAT1  JBAT2 
Retain Data (default)	JBAT1  JBAT2 

A battery must be used to retain the motherboard configuration in CMOS RAM.

NOTE : You can clear CMOS by shorting 2-3 pin when the system is POWER OFF. Then, return to 1-2 pin position (default). It may damage the motherboard if clearing the CMOS in POWER ON status. Unplug the power cord from power supply before clearing CMOS will be a best bet for user.

2-7.9 BIOS BOOT BLOCK LOCK (JP16)

JP16: BIOS BOOT BLOCK LOCK	
Locked	JP16 
Unlocked (default)	JP16 

NOTE : When upgrading new BIOS version for 65ME/ME+, JP16 must be on 1-2 (unlocked).

2-7.10 WAKE ON LAN(WOL) FUNCTION (JWOL1)

JWOL1 : WAKE ON LAN (WOL) FUNCTION	
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 at the BIOS “*Power Management Setup*” and that your system has an ATX power supply with at least **720mA / +5V** standby power.

2-7.11 CD-ROM AUDIO CONNECTOR (CD_IN1/CD_IN2)

CD_IN1/CD_IN2: CD-ROM AUDIO CONNECTOR		
PIN NO.	CD_IN1	CD_IN2
PIN 1	GND	Left Channel
PIN 2	Left Channel	GND
PIN 3	GND	GND
PIN 4	Right Channel	Right Channel

2-7.12 TAD1/TV1 CONNECTOR

TAD1 / TV1 CONNECTOR		
PIN NO.	TAD1	TV1
PIN 1	PHONE	TV_L CHANNEL
PIN 2	GND	GND
PIN 3	GND	GND
PIN 4	TADOUT	TV_R CHANNEL

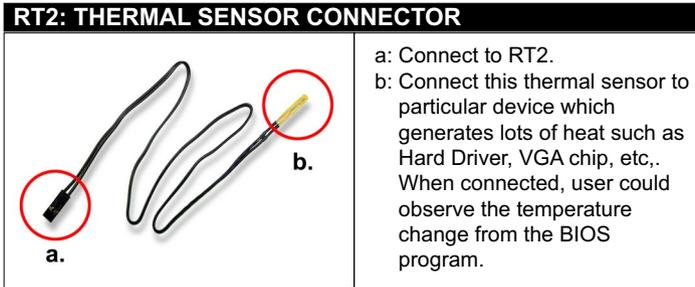
TAD1 : Telephone Answering Device / Modem connector.
Connects a voice modem to transmit and receive audio signals.

TV1 : TV Tuner connector.

Connects a TV card or second CD-ROM drive.

TAD1 / TV1 is only for **65EP+**

2-7.13 THERMAL SENSOR CONNECTOR (RT2)



USB1: 2nd USB Port

GAME/MIDI PORT

MIC port: Microphone Jack

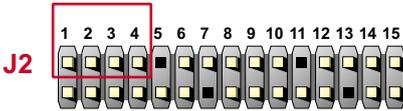
Line In port: Audio In Jack

Line Out / Speaker Out port: Audio Out Jack

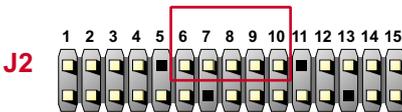
2-8 CONNECTORS

• In this section we list all external connectors that user will use them.

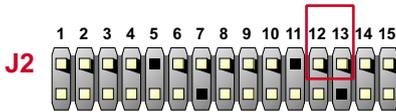
2-8.1 J2J3



HDD LED CONNECTOR	
PIN 1	+5V
PIN 2	HDD LED SIGNAL
PIN 3	HDD LED SIGNAL
PIN 4	+5V
DESCRIPTION	This connector supplies power to the cabinet's IDE activity LED. Read and write activity by devices connected to the Primary or Secondary IDE connector will cause the LED to light up.



INFRARED CONNECTOR	
PIN 6	INFRARED TRANSMIT SIGNAL
PIN 7	GND
PIN 8	INFRARED RECEIVE SIGNAL
PIN 9	NONE
PIN 10	+5V
DESCRIPTION	This connector supports an optional wireless transmitting and receiving infrared module. This module mounts to a small opening on system cases that support this feature. User must also configure the setting through BIOS program "Peripheral Setup" to select whether UART2 is directed for use with COM2 or IrDA. Use the five pins and connect a ribbon cable from the module to the motherboard's IR connector according to the pin definitions.



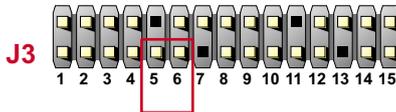
ATX POWER SWITCH	
PIN 12	ATX POWER SWITCH
PIN 13	GND
DESCRIPTION	<p>The system power is controlled by a momentary switch connected to this lead.</p> <p>Pressing the button once will switch the system between ON and SOFT OFF.</p> <p>Pushing the switch while in the ON mode for more 4 seconds will turn the system off.</p> <p>The system power LED shows the status of the system's power.</p>



SMI CONNECTOR	
PIN 14	SMI(System Management Interrupt) SIGNAL
PIN 15	GND
DESCRIPTION	<p>This allows user to manually place the system into a suspend mode or "Green" mode, where system activity is decreased to save electricity and prolong the life of certain components when the system is not in use. This 2-in connector connects to the case-mounted suspend switch. If you do not have a switch for the connector, you may use the "Turbo Switch".</p> <p>SMI is activated when it detects a short to open moment and therefore leaving it shorted will not cause any problems. This may require one or two presses depending on the position of the switch.</p> <p>Wake-Up can be controlled by settings in the BIOS but the keyboard will always allow wake-up(the SMI lead cannot wake up the system).</p>



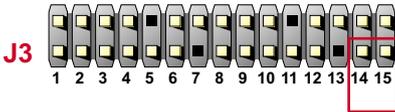
SPEAKER CONNECTOR	
PIN 1	SPEAKER SIGNAL
PIN 2	NONE
PIN 3	GND
PIN 4	+5V
DESCRIPTION	This SPEAKER connector connects to the case-mounted speaker. Two sources (LINE OUT and SPEAKER) allow you to hear system beeps and warnings. Only SPEAKER allows you to hear system beeps before the integrated audio has been properly initialized.



RESET SWITCH CONNECTOR	
PIN 5	RESET SIGNAL
PIN 6	GND
DESCRIPTION	RESET SWITCH connector connects to the case-mounted reset switch for rebooting your system without having to turn off your power switch. This is a preferred method of reboot to prolong the life of the system's power supply.

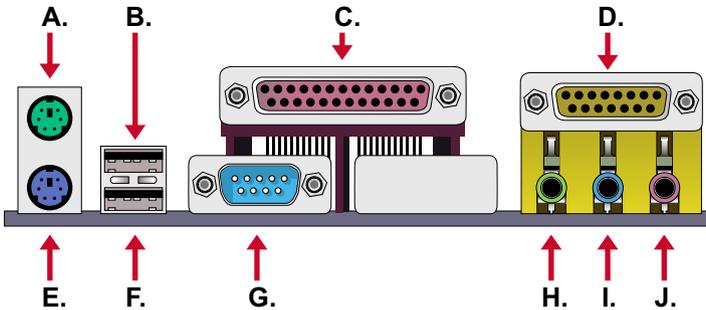


POWER LED CONNECTOR	
PIN 8	+5V
PIN 9	NONE
PIN 10	GND
DESCRIPTION	This Power LED connector connects the system power LED, which lights when the system is powered on and blinks when it is in sleep mode.



SUSPEND LED	
PIN 14	SUSPEND LED SIGNAL
PIN 15	GND
DESCRIPTION	Connect to Suspend indicator light.

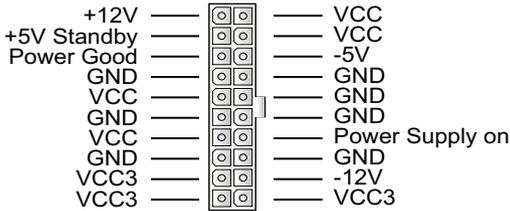
2-8.2 CHASSIS PANEL CONNECTOR



- 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 : LINE / SPEAKER OUT
- I : LINE IN (or second speaker out for 65ME+ only)
- J : MICROPHONE

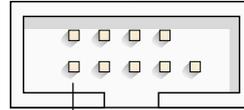
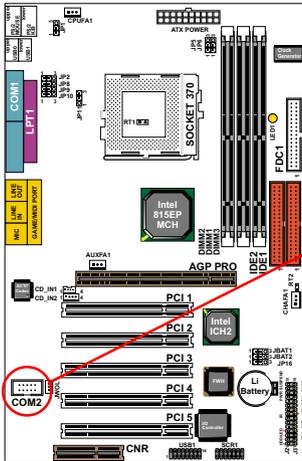
2-8.3 ATX POWER SUPPLY CONNECTOR

- This connector connects to an ATX power supply. The plug from the power supply only inserts in an orientation because of the different hole sizes. Find the proper orientation and push down firmly making sure that all pins are aligned.
- Reminding that your power supply should support at least 10mA on the 5V standby voltage. It may cause an difficulty to power on the system if the power supply cant support the load.
- **For Wake On LAN function, the power supply should support at least 720mA current.**



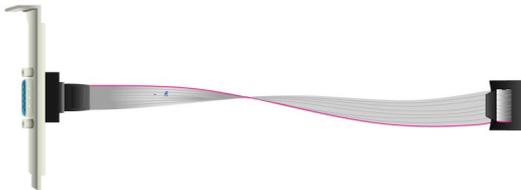
2-8.4 SERIAL PORT CONNECTOR

- 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.



PIN1

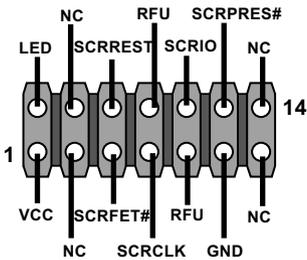
Serial Port Connectors:
Orient the red markings on the
floppy ribbon cable to PIN1.



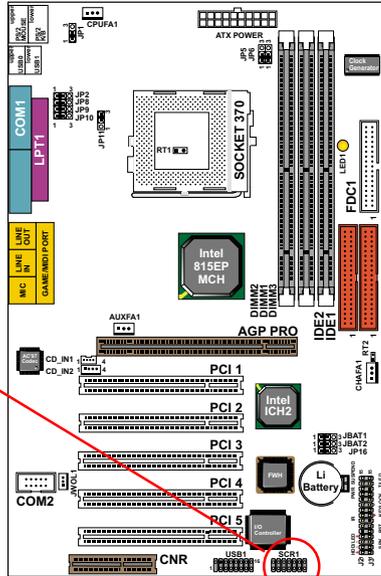
RS232 cable

2-8.5 SMART CARD RDADER 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.

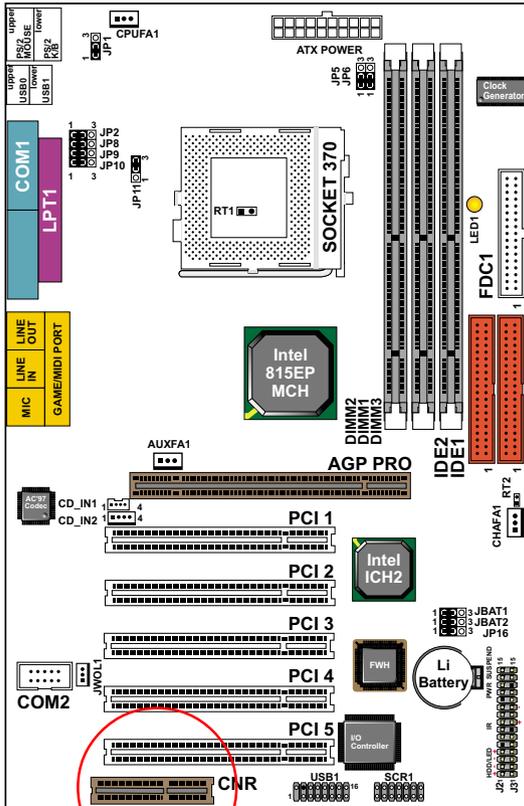


SCR1 pin assignment



2-8.6 COMMUNICATION AND NETWORKING RISER SLOT (CNR)

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

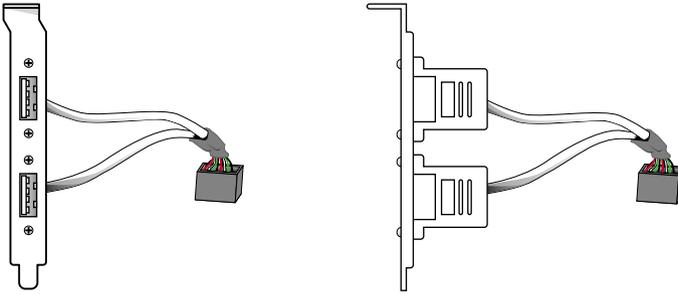


Note:

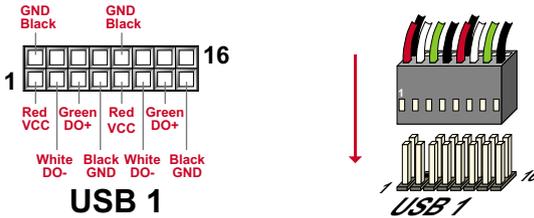
1. If only one modem CNR installed, the modem CNR must be primary.
2. Only one LAN CNR can be supported.
3. The audio CNR must be secondary, if on-chip AC 97 is enabled.
4. CNR devices are not included with this motherboard.

2-8.7 SECOND USB CONNECTOR

- This connector is for connecting the additional USB cable. It provides you additional two USB ports. User can order the additional USB cable from your motherboard dealer and vender.

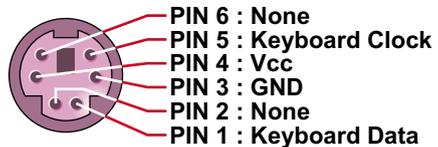
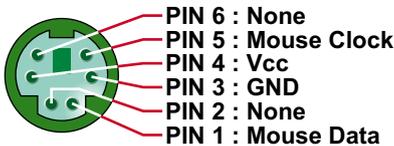


Additional USB Cable (Optional)



- When plugging the USB cable to USB2 connector, user can see each color of wires to determine which is first pin.

2-8.8 PS/2 MOUSE AND PS/2 KEYBOARD



2-8.9 IRQ DESCRIPTION

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		13
IRQ 6	Floppy Disk Controller	14
IRQ 7	Parallel Port (LPT1)	15
IRQ 8	Real Time Clock (RTC)	3
IRQ 9		4
IRQ 10		5
IRQ 11		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 may require IRQs. System IRQs are available to cards installed in the ISA expansion bus first, 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 that you configured 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, the *Control Panel* in *My Computer*, contains a *System* icon, which gives you a *Device Manager* tab. Double-Clicking on a specific hardware device gives you a *Resources* tab which shows the Interrupt number and address. Double-Clicking *Computers* to see all the interrupts and addresses for your system. Make sure that no two devices use the same IRQ or your computer will experience problems when those two devices are in use at the same time.

CHAPTER 3

SOFTWARE SETUP

3-1 ABOUT THE SUPPORT CD

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

3-2 INTEL CHIPSET DRIVER INSTALLATION

Step 1:

- Please put the Support CD attached to motherboard into the CD-ROM drive.
- When appears a welcome window as left screen, then user should choose “**Install Driver**”.

Step 2:

- Click on the “**INTEL Chipsets Driver**”.

Step 3:

- Click on the “**INF Utility for All INTEL Chipsets**”.



Step 4:

- Press **Next** button to continue.



Step 5:

- Press “Yes” to accept Software License Agreement.



Step 6:

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

3-3 INTEL ULTRA ATA STORAGE DRIVER INSTALLATION

Step 1:

- Please put the Support CD attached to motherboard into the CD-ROM drive.
- When appears a welcome window as left screen, then user should choose “**Install Mainboard Driver**”.

Step 2:

- Click on the “**INTEL Driver**”.

Step 3:

- Click on the “**INTEL 815 Chipsets**”.

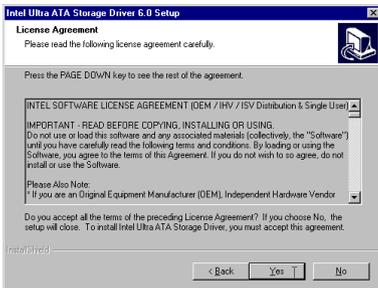
Step 4:

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



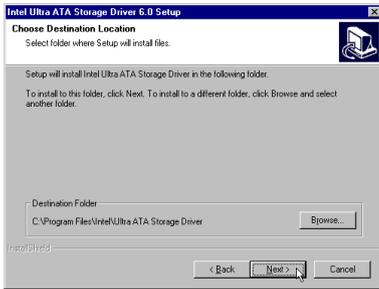
Step 5:

- Press Next button to continue.



Step 6:

- Press “Yes” to continue.



Step 7:

- Press “Next” to continue.



Step 8:

- Press “Next” to continue.



Step 9:

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

3-4 AC'97 DRIVER INSTALLATION (FOR 65EP ONLY)

Step 1:

- Please put the Support CD attached to motherboard into the CD-ROM drive.
- When appears a welcome window as left screen, then user should choose “**Install Mainboard Driver**”.

Step 2:

- Click on the “**INTEL Driver**”.

Step 3:

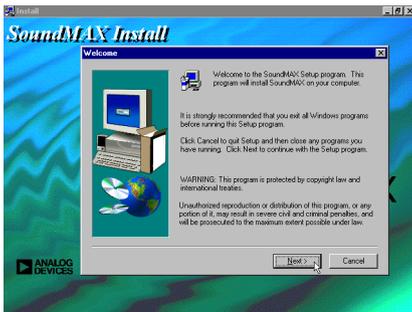
- Click on the “**INTEL 815 Chipsets**”.

Step 4:

- Click on the “**AC'97 Driver**”.

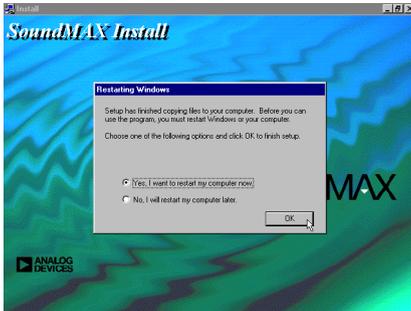
Step 5:

- The next screen will appear for user to select which AC'97 driver you need to install that is depended 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**” .



Step 6:

- Press “**Next**” to continue.



Step 7:

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

65EP/65EP+

3-5 CREATIVE SOUND DRIVER INSTALLATION (FOR 65EP+ ONLY)

Step 1:

- Please put the Support CD attached to motherboard into the CD-ROM drive.
- When appears a welcome window as left screen, then user should choose “**Install Driver**”.

Step 2:

- Click on the “**INTEL Chipsets Driver**”.

Step 3:

- Click on the “**INTEL 815EP Chipsets**”.

Step 4:

- Click on the “**Creative Sound Driver**”.

Step 5:

- Follow the instruction on screen to complete the installation, after which please restart your PC.

3-5.1 HOW TO ENABLE THE REAR LINE OUT (SECOND PAIR OF SPEAKERS)

Step 1:

- Select the **“My computer”** icon.

Step 2:

- Select the **“Control Panel”** icon.

Step 3:

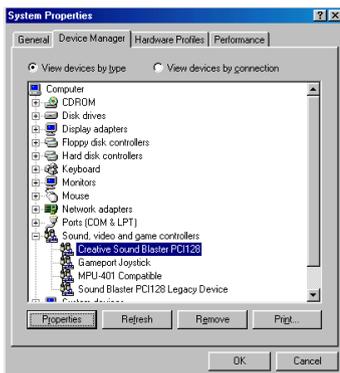
- Select the **“System”** icon.

Step 4:

- You should be in the **“System Properties”** window.

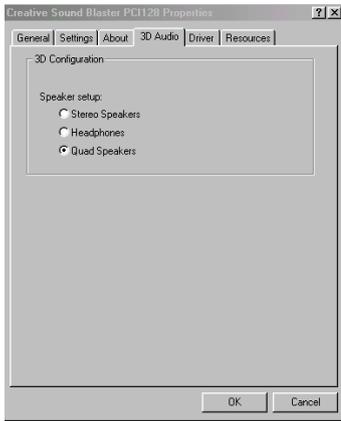
Step 5:

- Click the **“Device Manager”** button.



Step 6:

- Click the **“Creative sound Blaster PCI128”** selection, then Click on the **“Properties”** button.



Step 7:

- When “**Creative Sound Blaster PCI128 Properties**” Window appears, please Click the 3D Audio button, and then select “Quad Speakers”.

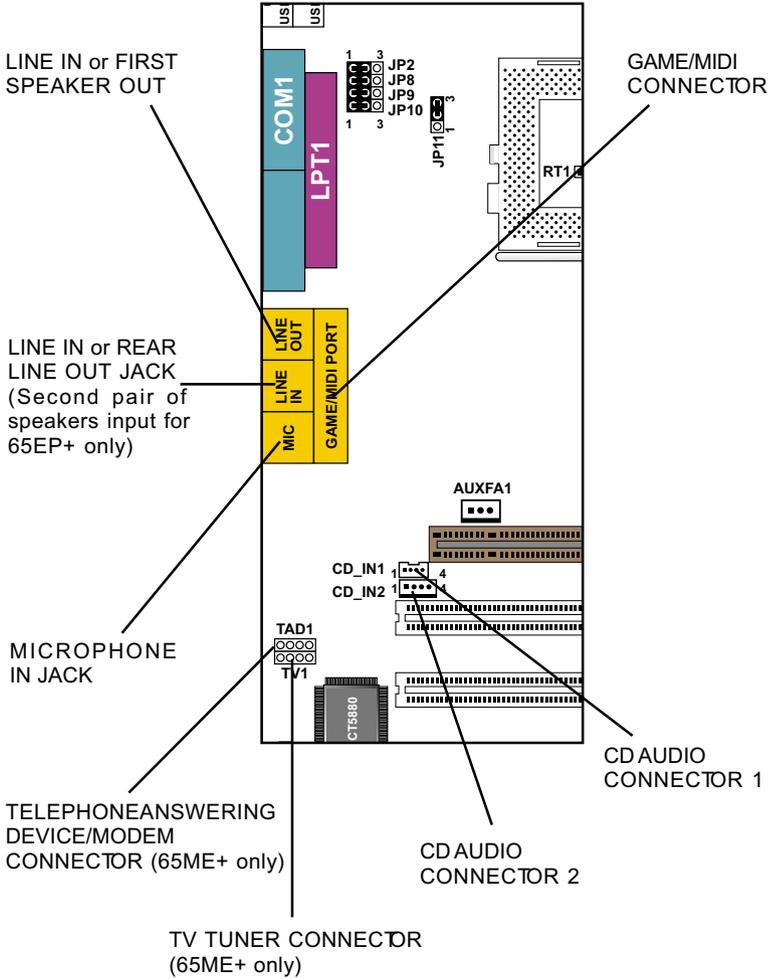
Step 8:

- Click the “**OK**” button.

Step 9:

- Connect your second pair of speakers to the Rear Line out Jack.

3-5.2 IDENTIFYING CONNECTORS ON THE BUILD-IN AUDIO



3-6 INSTALLING ITE HARDWARE MONITOR UTILITY (SMARTGUARDIAM)

Step 1:

- Please put the Support CD attached to motherboard into the CD-ROM drive.
- When appears a welcome window as left screen, then user should choose “**Install Mainboard**”.

Step 2:

- Click on the “**INTEL Driver**”.

Step 3:

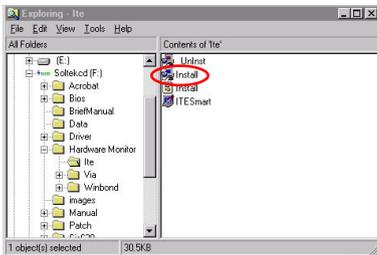
- Click on the “**INTEL 815E Chipsets**”.

Step 4:

- Click on the “**Hardware monitor utility**”.

Step 5:

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



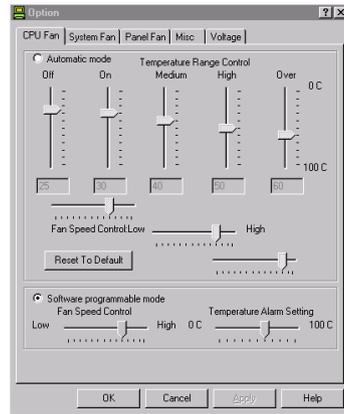
Step 6:

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



Step 7:

- After which Follow the instruction on screen to complete the installation.



This screen shows the ITE SMARTGUARDIAN, it shows the information about system temperatures, voltages and Fan speed, you can accordance your system to make optimize Value setting.

CHAPTER 4

BIOS SETUP

4-1 INTRODUCE THE BIOS

- BIOS stands for Basic Input Output System. It is sometimes called ROM BIOS because it is stored in a Read-Only Memory(ROM) chip on the motherboard. 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.

4-2 WHAT IS BIOS SETUP

- Setup is an interactive BIOS program that you need to run when:
 1. Changing the hardware on 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 caching)

4-3 HOW TO RUN BIOS SETUP

- One way of running SETUP is to press a special function key or key combination during POST, before the operating system is loaded during POST, the BIOS usually displays a prompt such as:

Press DEL to enter SETUP

4-4 WHAT IS CMOS

- CMOS is a special kind of memory maintained by a battery after you turn your computer off. The BIOS uses CMOS to store the settings you selected in SETUP. The CMOS also maintains the internal clock. Every time you turn on your computer, the BIOS looks in CMOS for the settings you selected and configures your computer accordingly. If the battery charge runs too low, the CMOS content will be lost and POST will issue a “CMOS invalid” or “CMOS checksum invalid” message. If this happens, you may have to replace the battery. After the battery is replaced, the proper settings will need to be stored in SETUP.

4-5 WHAT IS POST

- POST is an acronym for Power On Self Test. It's a traditional name for the routines that the BIOS uses to test and initialize the devices on your system when the PC is powered on. Its meanings has grown to include anything 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.

4-6 BIOS UPGRADE

- Motherboards incorporate the system BIOS in a Flash memory component. Flash BIOS allows user upgrades without the need to replace an EPROM component.
- The upgrade utility fits on a floppy diskette and provides 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, but no memory managers can be installed during upgrades.

4-6.1 BEFORE UPGRADE BIOS

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

4-6.2 UPGRADE PROCESS

Note: Normally, to upgrade BIOS that is unnecessary if the system is working fine without any problem, user should upgrade the BIOS unless you experienced incompatible problem or need BIOS upgrade 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 motherboard, This program only works in *pure DOS environment, the utility can not be worked in win95/98, ME, NT or WINDOWS 2000 environment.*

Upgrading the system BIOS

Set 1. Please visit the board maker’s website, download the newest BIOS file and newest award flash utility “AWDFLASH.EXE” for the motherboard. The BIOS file you downloaded will be a *. bin format.

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 you system and boot form the diskette.

Step 4. When booting is finished type **awdf flash *.bin /sn/py/cc** and then press <Enter> to run BIOS upgrade program. (*.bin depends on your motherboard model and version code).

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

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

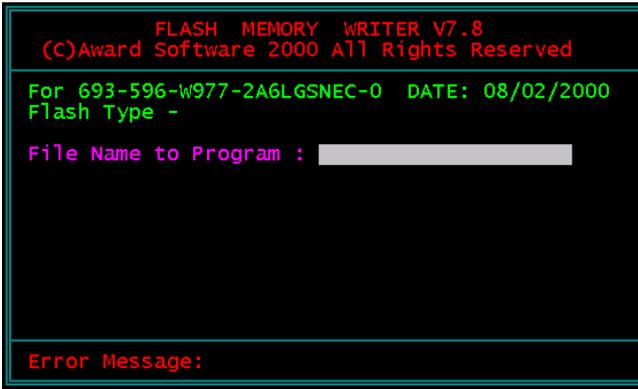


Figure 1 : Award Flash Memory Writer Start Screen

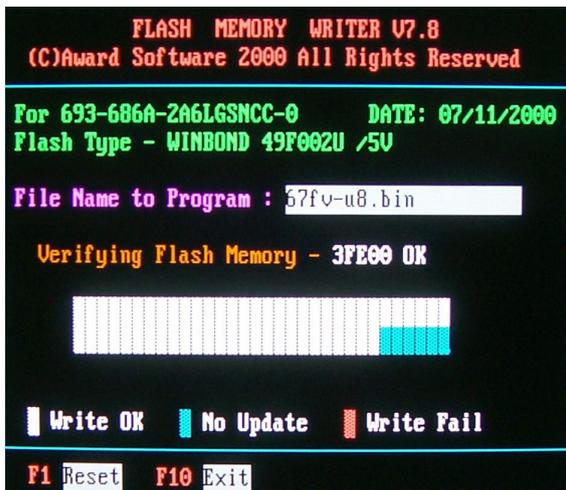


Figure 2 : Award Flash Memory Writer Start Screen

The parameters of AWDFLASH.EXE

/sn: No original BIOS backup

/py: Program flash memory

/cc: Clear CMOS data after programming

/r : Reset system after programming

NOTE: User can type AWDFLASH /? to get further details about parameters. Wrong usage of parameter will damage the BIOS information, so that we strongly recommend user to leave parameters away unless you realize their function.

4-7 CMOS SETUP UTILITY

- This INTEL 815EP motherboard comes with the AWARD BIOS from AWARD Software Inc. Enter the Award BIOS program 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 - 2000 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 F10 : Save & Exit Setup	↑↓→← : Select Item (Shift) F2 : Change Color
Time, Date, Hard Disk Type...	

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

4-8 STANDARD CMOS SETUP

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

Run the STANDARD CMOS SETUP as following:

1. Choose “STANDARD CMOS SETUP” from the Main Menu and a screen with a list of option will appear:

CMOS Setup Utility - Copyright (C) 1984-2000 Award Software Standard CMOS Features

Date (mm:dd:yy)	Thu, Dec 30 2000	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.

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) 1984-2000 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

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., Drive A
2.88MB, 3.5in.,
None., Drive B

Video Set this field to the type of video display card installed in the system. The choices are:
Mono,
VGA / EGA ,
CGA40,
CGA80.

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

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

4-9 ADVANCED BIOS FEATURES

- ADVANCED BIOS FEATURES allows you to improve your system performance or set up system features according to your preference.

Run the ADVANCED BIOS FEATURES as following:

1. Choose “ADVANCED BIOS FEATURES” from the Main Menu and a screen with a list of option will appear:
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 started in the current session.

<F6>: Load all options with Fail-Safe default values.

<F7>: Load all options with Optimized default values.

**CMOS Setup Utility - Copyright (C) 1984-2000 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 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 on up contain internal cache memory, and most, but not all, modern PCs have additional (external) cache memory. When the CPU requests data, the system transfers the requested data from the main DRAM into cache memory, for even faster access by the CPU. The External Cache field may not appear if your system does not have external cache memory.

CPU L2 Cache ECC Checking When you select *Enabled*, memory checking is enabled when the external cache contains ECC SRAMs. The choice: Enabled, Disabled.

Process or Number Feature The choice: Enabled, Disabled.

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 disable quick POST. Better to find a problem during POST than lost 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 choice: Floppy, LS/ZIP, HDD, SCSI, CDROM, Disabled.
- Swap Floppy Drive** This field is effective only in systems with two floppy drives. Selecting Enabled assigns physical drive B logical drive A, and physical drive A to logical drive B.
- 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 repeat 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) Choose 250, 500, 750 and 1000. This option sets the time interval for displaying the first and the second characters.

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.

OS Select For DRAM > Non-OS/2: For Non-OS/2 system.
64MB OS: For OS/2 operating 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.

4-10 ADVANCED CHIPSET FEATURES

- ADVANCED CHIPSET FEATURES allows you to change 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 screen with a list of option will appear:
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 started in the current session.

<F6>: Load all options with Fail-Safe default values.

<F7>: Load all options with Optimized default values.

**CMOS Setup Utility - Copyright (C) 1984-2000 Award Software
Advanced Chipset Features**

		Item Help
SDRAM CAS Latency Time	3	Menu Level ▶
SDRAM Cycle Time Tras/Trc	7/9	
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	Enabled	
Delayed Transaction	Enabled	
AGP Graphics Aperture Size	64MB	

↑ ↓ → ←: 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, However. if any program writes to this memory area, a system error may result.

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 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 Choose 32, 64 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.

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

4-11 INTEGRATED PERIPHERALS

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

Run the INTEGRATED PERIPHERALS as following:

1. Choose "INTEGRATED PERIPHERALS" from the Main Menu and a screen with a list of option will appear:
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 started in the current session.

<F6>: Load all options with Fail-Safe default values.

<F7>: Load all options with Optimized default values.

**CMOS Setup Utility - Copyright (C) 1984-2000 Award Software
Integrated Peripherals**

		Item Help
On-Chip Primary PCI IDE	Enabled	Menu Level ▶
On-Chip Secondary PCI IDE	Enabled	
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	Former Sts	
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** Choose Auto\ or Mode 0~4. The BIOS will detect the HDD mode type automatically when you choose Auto.
- Secondary Master / Slave PIO** You need to set to a lower mode than Auto when your hard disk becomes unstable.
The choice: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.
- Primary Master / Slave UDMA** Ultra DMA/66 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA drive and your system software both support Ultra DMA/66, select Auto to enable BIOS support.
- Secondary Master / Slave UDMA** both support Ultra DMA/66, select Auto to enable BIOS support.
The choice: 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.

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.

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) installed on 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 choice: Enabled, Disabled.

Onboard Serial Port 1 / Port2 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 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 address and corresponding interrupt for the physical parallel port.

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.

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.

4-12 POWER MANAGEMENT SETUP

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

Run the POWER MANAGEMENT SETUP as following:

1. Choose "POWER MANAGEMENT SETUP" from the Main Menu and a screen with a list of option will appear:
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 started in the current session.

<F6>: Load all options with Fail-Safe default values.

<F7>: Load all options with Optimized default values.

**CMOS Setup Utility - Copyright (C) 1984-2000 Award Software
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

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, 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 Supports	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** 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 choice: 3, 4, 5, 7, 9, 10, 11, NA.
- 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.
- 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.
- 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) Alarm Set a certain date when RTC Alarm Resume option is Enabled to awaken the system. This option is concurrent with Resume Time option.

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

Primary IDE 1

Secondary IDE 0

Secondary IDE 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.

4-13 PNP / PCI CONFIGURATION

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

Run the PNP/PCI CONFIGURATION as following:

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

**CMOS Setup Utility - Copyright (C) 1984-2000 Award Software
PnP/PCI Configurations**

Reset Configuration Data	Disabled	Item Help
Resources Controlled By	Auto(ESCD)	Menu Level ▶
× IRQ Resources	Press Enter	
× DMA Resources	Press Enter	
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. 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 started in the current session.

<F6>: Load all options with Fail-Safe default values.

<F7>: Load all options with Optimized 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 The plug and play AwardBIOS can automatically configure all the boot 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 below list.

**CMOS Setup Utility - Copyright (C) 1984-2000 Award Software
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

DMA Resources Press Enter. Please refer to the below list.

**CMOS Setup Utility - Copyright (C) 1984-2000 Award Software
DMA Resources**

DMA-0 assigned to	PCI/ISA PnP	Item Help
DMA-1 assigned to	PCI/ISA PnP	Menu Level ▶
DMA-3 assigned to	PCI/ISA PnP	
DMA-5 assigned to	PCI/ISA PnP	
DMA-6 assigned to	PCI/ISA PnP	
DMA-7 assigned to	PCI/ISA PnP	

↑↓ → ←: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.

4-14 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 with your motherboard supplier to get proper value about your setting of the CPU temperature.

CMOS Setup Utility - Copyright (C) 1984-2000 Award Software PC Health Status

Shutdown Temperature		Disabled	Item Help
1.8V	0	1.87 V	Menu Level ▶
CPU Vcore	1	2.00 V	
DIMM	2	3.37 V	
+5V	3	5.02 V	
+12V	4	12.28 V	
- 12V	5	(-)12.52 V	
- 5	6	(-)5.10 V	
5VSB	7	5.08 V	
Voltage Battery		3.08 V	
Temperature 1		41 °C	
Temperature 2		(-)55 °C	
Temperature 3		(-)55 °C	
Fan 1 Speed		5625 RPM	
Fan 2 Speed		0 RPM	
Fan 3 Speed		0 RPM	

↑ ↓ → ← : 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.

4-15 FREQUENCY/VOLTAGE CONTROL

CMOS Setup Utility - Copyright (C) 1984-2000 Award Software Frequency Control

	Press Enter	Item Help
Auto Overclocker	Enabled	Menu Level ▶
Auto Detect DIMM/PCI Clk	Disabled	
× Spread Spectrum Modulated	3	
× Linear Spread Model	0	
Linear Spread Range	Disabled	
CPU Skew Adjust	Disabled	
PCI Skew Adjust	Disabled	
SDRAM Skew Adjust	Disabled	
AGP Skew Adjust	100/33MHz	
CPU Host/PCI Clock	Default	
CPU Voltage Regulator	x3	
CPU Clock Ratio		

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

Auto Detect DIMM/PCI CLK This item allows you to enable/disable detect DIMM/PCI Clock.
The choice: Enabled, Disabled.

Spread Spectrum Modulated This item allows you to enable/disable the spread spectrum modulate.
The choice: Enabled, Disabled.

Linear Spread Model This item allows you to enable/disable the linear spread model.
The choice: Enabled, Disabled.

Linear Spread Range This item allows you to enable/disable the linear spread range.
The choice: Enabled, Disabled.

CPU Skew Adjust The choice: Disabled, 150ps, 300ps, 450ps

PCI Skew Adjust The choice: Disabled, 150ps, 300ps, 450ps

SDRAM Skew Adjust The choice: Disabled, 150ps, 300ps, 450ps

AGP Skew Adjust 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.

4-16 LOAD OPTIMIZED DEFAULTS

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

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

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

4-17 SET SUPERVISOR / USER PASSWORD

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

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

"Enter Password : "

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

"Confirm Password : "

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

NOTE: *You determine when the password is required within the Advanced BIOS Features and its Security option. If the Security option is set to "system", the password will be required both at boot and at entry to Setup. If set to "setup", prompting only occurs when trying to enter Setup.*

4-18 SAVE & EXIT SETUP

- SAVE & EXIT SETUP allows you to save all modifications you have specified into the CMOS memory. Highlight this option on the Main Menu and the following message appears:

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

Press <Enter> key to save the configuration changes.

4-19 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 "`

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