

DIBX4
Pentium II/III
Celeron
Twin Processor
Intel 440BX ATX MAINBOARD
(VER. 1.x)

USER'S MANUAL

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SOMETHING IMPORTANT !

☆ **TRADEMARKS**

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☆ **LOAD SETUP DEFAULTS**

“LOAD SETUP DEFAULTS” is the function which will have the BIOS default settings loaded into the CMOS memory, these default settings are the best-case values which will optimize system performance and increase system stability. This function will be necessitated when you receive this mainboard, or when the system CMOS data is corrupted. Please refer to the Section 4.8 for the procedures.

☆ **DISCHARGE CMOS DATA**

Whenever you want to discharge the CMOS data or open the system chassis, Make sure to disconnect the AC power first because there is always the 5V standby voltage connected to the ATX form-factor mainboard. Without disconnecting the AC power connector from the PC system, the mainboard can be damaged by any improper action .

☆ **WAKE ON LAN**

In order to support the Wake On LAN feature, the system requires a special SPS (Switching Power Supply), Such power supply must be able to provide at least 700 mA of driving capability on the “5V standby” voltage. Please refer to the Section 3.3 for pin assignment.

☆ **WARNING !**

The "Static Electricity" may cause damage to the components on the mainboard, In order to avoid the damage to the mainboard accidentally, please discharge all static electricity from your body before touching this mainboard.

☆ **NOTICE**

Information presented in this manual has been carefully checked for reliability; however, no responsibility is assumed for inaccuracies. The information contained in this manual is subject to change without notice.

1. INTRODUCTION

1.1 OVERVIEW

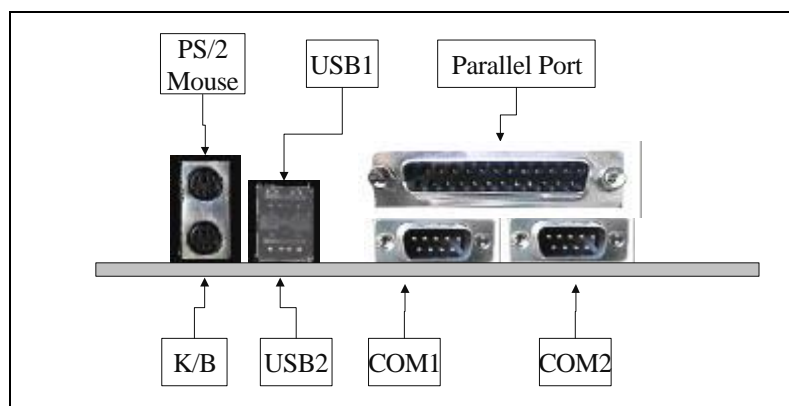
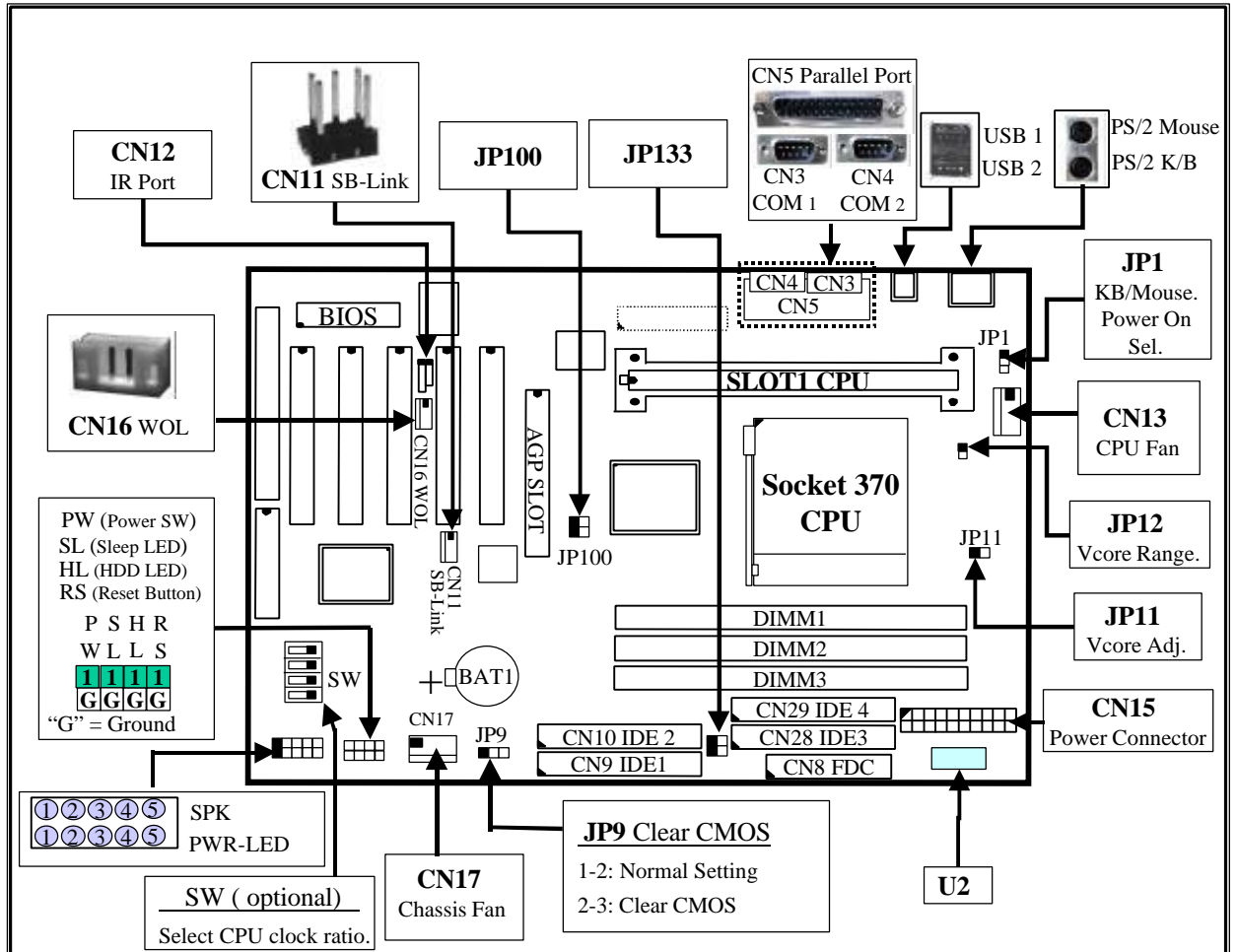
This Mainboard is a high performance personal computer mainboard. It is the ATX form-factor mainboard with both Slot 1 and Socket 370 on the board for various purposes. The Intel® 82440BX AGPset™ and Winbond® I/O chipset are chosen as the core logic of the mainboard to give the most outstanding performance and reliability. It is designed for 233, 266, 300 , 333, 350, 366, 400, 433, 450, 466, 500, 550MHz and higher speed Pentium™ II , Pentium™ III and Celeron™ processors

There are four IDE ports on this mainboard and it allows you to connect maximum eight IDE devices. (There are only two IDE ports on the DIBX2+ mainboard) Each IDE interface supports the master/slave connection mode and they support the IDE, EIDE and Ultra DMA (Ultra-ATA) standards. Two of the IDE ports support the ATA/66 protocol and it makes the data transfer rate of the connected IDE device amazingly fast.

In order to support the popular devices which will be installed in the PC system, there are one Floppy Disk control port, two high speed Serial ports (UARTs), one multi-mode Parallel port, one PS/2™ mouse port, one IR port and two USB ports designed on the mainboard. When you are connecting the devices like PS/2 mouse, external modem, printer, floppy disk drive, USB devices .. etc. You don't have to purchase another interface card. Simply have the related devices connected to the appropriate interface.

Pentium™ II, Pentium™ III and Celeron™ are the 64-bit processors with RISC technology, which offers several key features such as built-in 512K/256/128K L2 cache, 12-stage super-pipeline architecture, out of order execution ... etc. In order to optimize of its capabilities and performances, the 32-bit Operating System (such as Windows® NT and OS/2™) and 32-bit applications are recommended.

1.2 MAINBOARD LAYOUT



IMPORTANT NOTICE:

There are two CPU sockets on the mainboard - the Slot 1 for Pentium II/III and slot type Celeron Processors. The Socket 370 is designed for socket type Pentium III and Celeron Processors. You can only install one CPU on this mainboard.

1.3 SPECIFICATIONS

◎ CPU

Intel® Pentium™ II, Pentium™ III or Celeron™ (for Slot and Socket type) 233, 266, 300, 333, 350, 366, 400, 433, 450, 466, 500MHz and higher speed processors

◎ CPU VCC

Switching Voltage Regulator circuits on board, supports +1.30V DC through +3.5V DC CPU Core Voltage.

Note : The CPU Core Voltage will be Detected and adjusted automatically by the VID-pin on the CPU, so there is no manual-adjustment required to select the CPU voltage. Simply plug in the CPU and start immediately.

◎ WORD SIZE

Data Path : 8-bit, 16-bit, 32-bit, 64-bit

Address Path : 32-bit

◎ PC SYSTEM CHIPSET

BX mainboard: Intel® 82440BX AGPset™ (82443BX, 82371EB)

◎ SUPER I/O CHIPSET

Winbond® W83977EF-AW

◎ FRONT SIDE BUS FREQUENCY

66 MHz and 100MHz selectable.

◎ MEMORY

BX mainboard: Three 168-pin DIMM sockets, Maximum 384 MB with ECC.

◎ BIOS

AWARD System BIOS. 256KB x 8 Flash ROM
(Supports Plug & Play, ACPI, DMI and Green functions).

◎ EXPANSION SLOTS

AGP Slots : One 32-bit AGP Slot (Supports 1x or 2x AGP graphics cards)

ISA Slots : One 16-bit ISA slot.

PCI Slots : Four or Five 32bit PCI slots.

(When High Point HPT366 is designed on the board, there will be four PCI slots, because one of the IRQ will be used by the ATA/66 interface.)

◎ WOL PORTS

One WOL connector supports Wake-On-LAN (WOL up-designed)

◎ SB-LINK PORTS

One SB-LINK feature connector to support PCI sound cards. (such as Creative™ Labs EMU8008 sound chip)

◎ USB PORTS

Two Universal Serial Bus (USB) ports.

◎ IDE PORTS

Two Ultra DMA/33 (ATA/33)IDE ports and two Ultra DMA/66 (ATA/66) IDE ports, which will support up to 8 IDE devices like IDE hard disk, ATAPI CD-ROM and LS-120/ZIP-100 devices.

◎ SUPER I/O PORTS

1. Two high speed NS16C550 compatible serial ports (UARTs).
2. One parallel port, supports SPP/EPP/ECP mode.
3. One Floppy Disk Control port.

◎ IR PORT

One HPSIR and ASKIR compatible IR transmission connector (5-pin).
One Consumer IR transmission connector (4-pin, optional).

◎ MOUSE AND KEYBOARD

One PS/2™ mouse connector, One PS/2™ keyboard connector.

◎ HARDWARE MONITORING *(optional)*

Winbond W83783S (please refer to U2 on page 1-2) is designed on the board to monitor hardware healthy status like system voltage, system temperature, and cooling fans. When the CPU temperature is too high, the system BIOS will tell the system board to give a series of beeping alarm and slow down the CPU speed (throttling speed) so that you can take proper action to prevent your system from damage. When you hear the beeping alarm, turn the power off and check on the mainboard components to see whether it is working properly or not. If you don't know how to handle it, send the PC system to your dealer for technical support.

There is the hardware monitoring program in the CD which comes with this mainboard. You can use it to monitor the system healthy status. When you find there is the W83783S installed on U2, you can run the hardware monitoring program and then it will monitor the system healthy status all the time.

◎ ACPI

Advanced Configuration and Power Interface (ACPI) function is strongly recommended by PC'98 because it will let you have many additional features and that will make your PC system becomes very friendly and convenient. Followings are the ACPI features designed on the board:

1. On Now: power on the system by panel-switch, Keyboard, PS/2™ Mouse, Modem ring-in, RTC alarm or LAN signal.
2. Power off (soft-off) by OS or Panel-switch.
3. Resuming of PC system. (such as Modem ring-in, RTC alarm, etc.)
4. Supports Full-On/Doze/Standby/Suspend operating modes.

◎ DIMENSION

1. Width & Length : 305 mm x 210 mm.
2. Height : 2 1/2 inches with CPU Retention Mechanism.
3. PCB Thickness : 4 layers, 0.05 inches normal.
4. Weight : 18 ounces.

◎ ENVIRONMENT LIMITATION

1. Operating Temperature : 10? to 40? . (50? to 104?)
2. Required Airflow : 50 linear feet per minute across CPU.
3. Storage Temperature : - 40? to 70? . (- 40? to 158?)
4. Humidity : 0 to 90% non-condensing.
5. Altitude : 0 to 10,000 feet.

2. INSTALLATION

2.1 UNPACKING

The mainboard contains the following components. Please inspect the following contents and confirm that everything is there in the package. If anything is missing or damaged, call your supplier for instructions before proceeding.

- This mainboard.
- One USER'S MANUAL.
- One Cable set for IDE and Floppy devices.
- One Pentium™ II Processor Retention Mechanism (RM).
- One CD diskette for device driver and utility programs.
- One floppy diskette for Ultra ATA/66 device driver.

This mainboard contains electrostatic sensitive components and it can be easily damaged by static electricity. So please leave it sealed in the original packing until when installing.

A grounded anti-static mat is recommended when unpacking and installation. Please also attached an anti static wristband to your wrist and have it grounded to the same point as the anti-static mat.

After the opening of the mainboard carton, please observe the mainboard carefully to make sure there is no shipping and handling damage before you can start to install the PC system.

Having finished all the procedures above, you are now ready to install the mainboard to the chassis. Please make sure that the chassis is the ATX type so that the mounting hole will match with this mainboard.

2.2 AMAZING WAYS TO POWER ON THE PC SYSTEM

When the mainboard has been installed successfully, there are several ways to power on the system. Please read the following description for all the details.

POWER BUTTON

The power button can be programmed by COMS setup program and it has different features. Please refer to page 3-12 for detail function description.

Note: This power button can not be used to power-on the PC system if the "Password" is selected in the "Power On Function" to power on your system. (please refer to Section 4.9 for the "INTEGRATED PERIPHERALS" in the CMOS setup.) However, you can always use the power button to turn off the power.

KEYBOARD (PASSWORD OR HOT KEY)

This mainboard allows you to use your personal password or a combination of hot key to power on your PC system. When the jumper setting on JP1 is "Enabled", the keyboard OnNow function will be activated. Under this circumstance, this mainboard will keep scanning the keyboard status waiting for the correct password or hot key input even when the system power is off (the stand-by 5V is still working and the power LED on the keyboard is still active). If you have selected the Password to power on the PC system in the BIOS setup program, the only way to power on the PC system will be the correct password. (you can not use the power button on the front panel to power on the PC system.) When you have selected the keyboard hot key to power on the PC system, you will be able to use keyboard hot key to power on the PC system. (you can use the power button to power on the PC system as well.) (Please refer to Section 4.9.- "**Power On function**")

When the "Password" and "Hot KEY" is selected, you will have to reboot the PC system to activate the setting, when you see the POST (Power On Self Test) is completed, the setting is changed and stored in the CMOS memory. Having finished the procedure, you may turn the power off and then you can use the keyboard to power-on the PC system afterward.

In case that you forget the "Password" or "Hot Key", disconnect the AC power for 30-60 seconds then re-connect the AC power to the PC system, the power button will be activated again and you can use the power button to turn on the system. Input your personal password again in the BIOS setup program, and then you may use the new password to power-on the PC system afterward.

□ PS/2™ MOUSE (LEFT OR RIGHT MOUSE BUTTON)

If you have a PS/2™ mouse connected to the system, you may change the setup in the BIOS and use the mouse click to turn on the PC system power. Please refer to **section 4.9** for the BIOS setting

To use the mouse key to turn on the PC system power, the mouse click must be done quickly and continually. Basically, 2-5 quick clicks on the mouse key (left key or right key) will turn the power immediately.

In order to activate the mouse key feature, you will have to reboot the PC system after the BIOS setting and wait until the POST (Power On Self Test) is completed. Having finished the procedure, you may use the mouse key to power-on the PC system afterward..

*Note: 1. This feature is not available on the COM port mouse (serial mouse).
2. To use the PS/2 mouse power-on the PC system, JPI must be "Enabled"*

□ RTC ALARM

PC system can be waked up by the RTC setting in the CMOS. You can set the alarming date and time in the RTC memory, When RTC alarms, the PC system will be triggered and wakes up automatically on the date and time which you selected in the BIOS setup program.

Enable the “Resume by Alarm” selection in the BIOS setup utility, and then you will see the input request for the date and time. (the “Resume by Alarm” is located in the “POWER MANAGEMENT SETUP”, please refer to Section 4.7), When you have stored the RTC alarm setting, the PC system will be turned on automatically according to the date and time which is recorded in the CMOS memory.

□ MODEM RING-IN

Everyone knows that a PC system can be used as a fax machine to send or receive fax messages. But most people still use fax machine to receive their messages because it is not practical to have the system powered on all day long waiting for the incoming messages. Now the problem can be solved because this mainboard can be triggered by a modem ring-in signal.

When you have a *external* modem installed, you can leave the PC system power off. Whenever there is the incoming message, the PC system will be triggered by the ring-in signal and wake up automatically to receive the message for you. From now on, you can tell your PC system to receive the fax message for you.

In order to use the ring-in signal to wake up your PC system, you will have to use the **EXTERNAL MODEM** and have it connected to one of the **SERIAL PORTS** (COMA or COM B) on the mainboard. When the mainboard detects the ring-in signal from the serial port, the system power will be turned on and start to receive the incoming messages automatically. (you need to have the software like Award Zero-Volt Data-Suspend Utility so that you can use the fax utility to receive the incoming fax message).

To enable the Modem Ring-In feature, you have to run the BIOS setup utility and enable the “Power On by Ring / LAN” option (it is located in the “POWER MANAGEMENT SETUP”, please refer to Section 4.7 for the settings).

Note: This function is not available when using the internal MODEM card.

WAKE ON LAN (WOL)

There is a WOL connector CN16 on the mainboard which is designed to connect to the signal from a LAN card which supports the Wake On LAN feature. When such LAN card is installed, you may turn on the PC system from the remote server and monitor the PC status. To enable this feature, you will have to use the BIOS setup utility to enable the “Resume by Ring or LAN” in the BIOS setup program.

Note: This function will be disabled if you turn off the power before the system can verify the DMI pool data.

2.3 POWER OFF THE PC SYSTEM

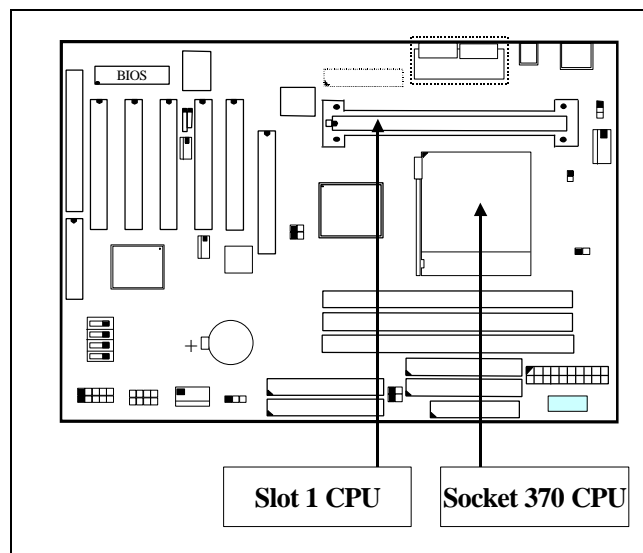
There are two ways to power off the system. They are “Shut Down by Power Button” and “ Shut Down by OS”. (such as Windows® 95 and Windows® 98, you can choose the **Shut Down** from the file menu and the system will be powered off immediately).

3. HARDWARE SETUP

Before you can start to install this mainboard, some hardware settings is required to make sure it will work perfectly with the devices which you are going to install in your PC system. To configure the mainboard is a simple task, only a few jumpers, connectors, cables and sockets needs to be selected and configured. (please refer to page 1-2 to see the mainboard layout)

3.1 INSTALLATION OF CPU

There are two CPU sockets on the mainboard designed for Pentium™ II, Pentium™ III and Celeron™ processors. The CPU sockets on the mainboard are the *Slot 1* and *Socket 370* as shown in the following picture:



Note: You can only one CPU on the mainboard.

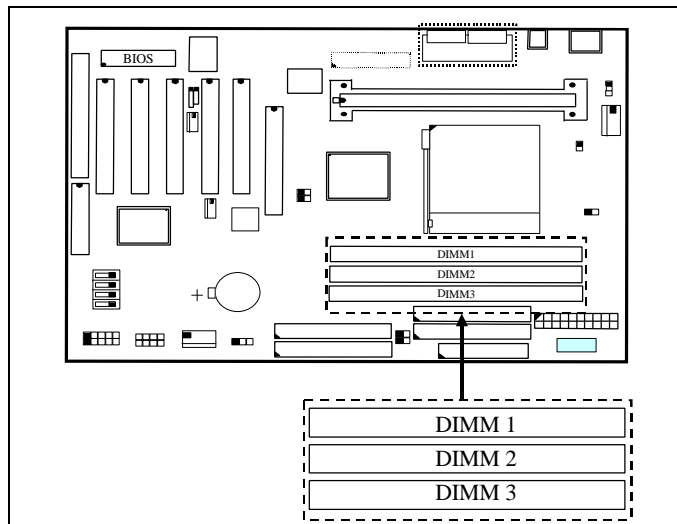
When you have installed the processor onto the mainboard, it will detect the CPU type and decide the CPU voltage automatically. So you don't have to make any jumper setting to select the CPU voltage. All you have to do is use the switch setting to select the CPU clock ratio. (most of the Intel processors need not to select the CPU clock ratio, because it is default selected by the CPU. Please refer to Section 3.4 for the toggle switch setting.)

This mainboard comes with the universal purpose retention mechanism (some people call it CPU Holder) for Slot 1 CPU. Before you can install the CPU onto the mainboard, please install the CPU holder first so that your CPU can be hold firmly on the mainboard.

3.2 INSTALLING THE DRAM MODULES

This mainboard has three DIMM sockets designed on the mainboard, all the DIMM sockets on the mainboard support the single side and double side DIMM modules, In order to have a better performance, only the Synchronous (SDRAM) memory is recommended. (Both Symmetrical and Asymmetrical DRAM addressing are supported.),.

When installing SDRAM modules, you don't have to start from DIMM1, you can choose one of the DIMM sockets to install the DIMM module. However, install the SDRAM module from DIMM 1 is still recommended.



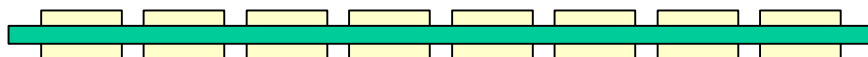
In order to increase of the system performance and the reliability, please refer to the following suggestions when you are installing the DIMM modules :

Installation of DIMM modules:

1.Outlook of DIMM modules:



(Single-Side DIMM Module)



(Double-Side DIMM Module)

2. Minimum one DIMM module must be installed on the mainboard.
3. You can use single side or double side DIMM module on this mainboard.
4. Always install DIMM module starting from DIMM 1 socket first, and then DIMM 2 and DIMM 3.
5. Either PC-100 or PC-66 DIMM module can be used on this mainboard.
6. Maximum memory size: 384MB



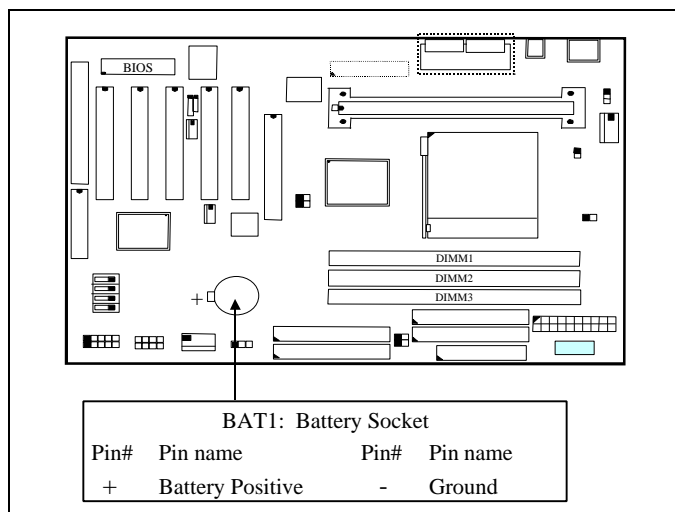
If the CPU which you are installing onto the mainboard will run at the 100MHz FSB clock speed, PC-100 DIMM module is recommended. If you use the PC-66 DIMM module with the 100MHz CPU, you may find that the PC system become not stable.

The 440BX chipset supports the ECC feature and it can be used to check the memory sub-system and make sure there is no error during memory read and memory write. Before you can enable the ECC feature in the BIOS setup program, please check the memory module and make sure there is the parity bit. (you have to check there is the parity bit on the DIMM module if you want to enable the ECC feature in the BIOS).

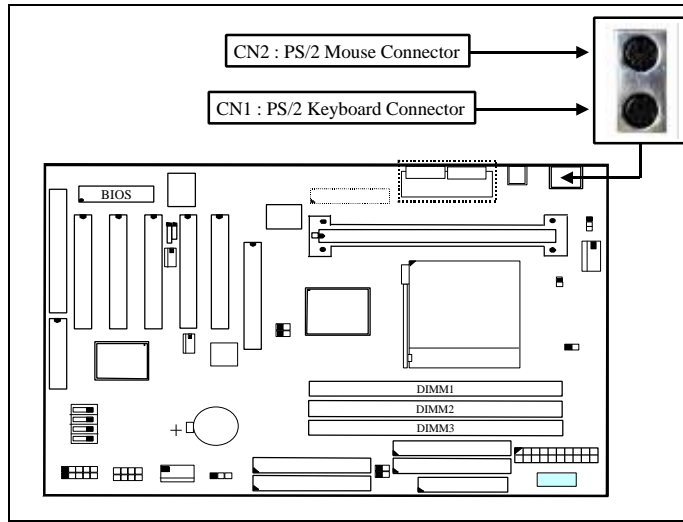
3.3 CONNECTORS

The connectors on the mainboard are either the pin header type or D-type connectors, they are used to connect the accessories or peripheral devices (such as power, mouse, printer,...etc.). Followings are the connectors with its description and the pin assignment which is designed on the mainboard.

(A) BAT1: Battery Socket (Use the 3 Volts Lithium battery : CR2032)

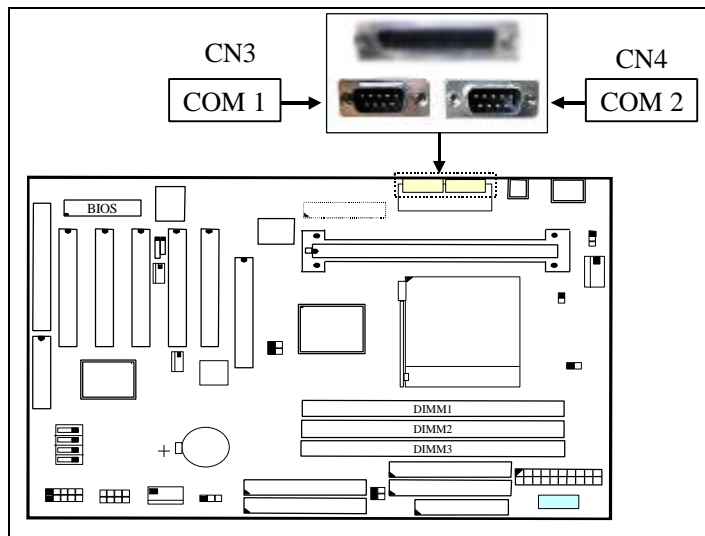


(B) CN1CN2: PS/2 Mouse and Keyboard Connector



(C) CN3 : Serial Port COM 1 Connector

(D) CN4 : Serial Port COM 2 Connector



(COM ports viewed from the real panel)

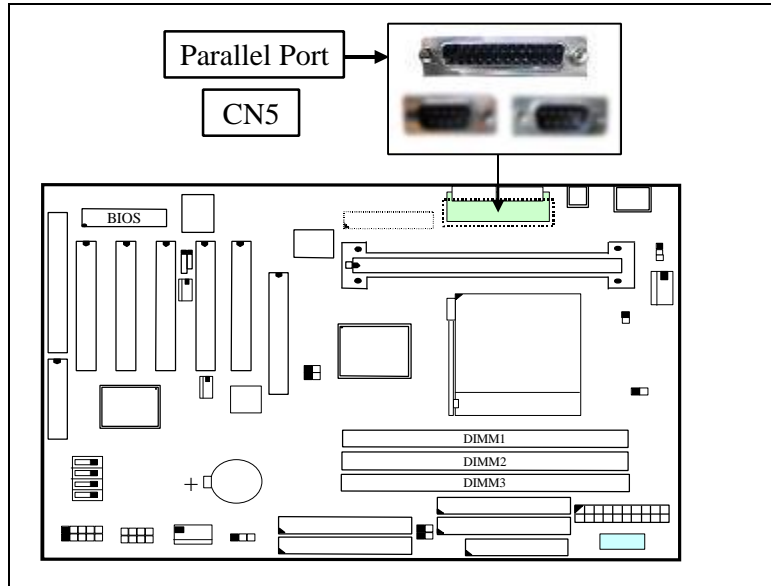
Ping assignment of serial port connector:

1	6	<u>Pin #</u>	<u>Signal name</u>	<u>Pin #</u>	<u>Signal name</u>
?	?	1	DCD (Data Carrier Detect)	6	DSR (Data Set Ready)
?	?	2	RD (Received Data)	7	RTS (Request To Send)
?	?	3	TD (Transmit Data)	8	CTS (Clear To Send)
?	?	4	DTR (Data Terminal Ready)	9	RI (Ring Indicator)
?		5	Ground		
5	9				

I/O address 3F8H/2F8H/3E8H/2E8H, IRQ3/IRQ4, selected by CMOS setup.

(E) CN5: Parallel Port Connector

The parallel port on the mainboard supports SPP/EPP/ECP modes, IRQ7 or IRQ5 is selectable, ECP mode will use either DMA channel 3 or channel 1 which can be selected by the CMOS setup program

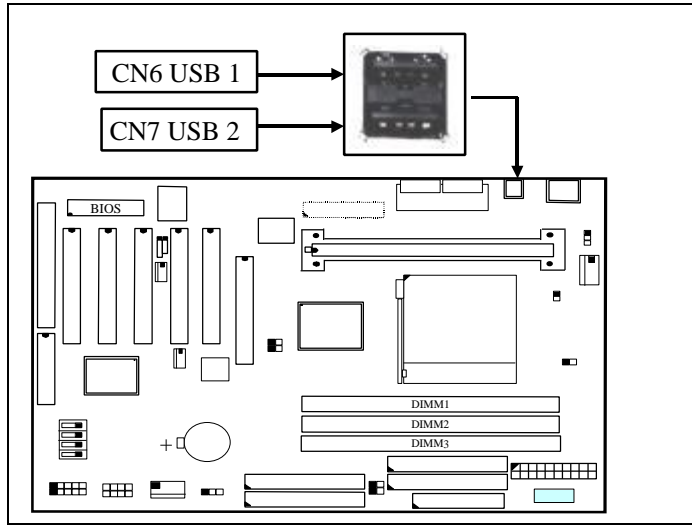


Pin assignment of parallel port:

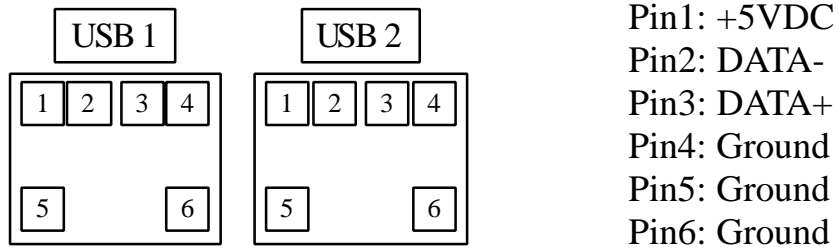
<u>1</u>	<u>14</u>	<u>Pin #</u>	<u>Signal name</u>	<u>Pin #</u>	<u>Signal name</u>
?	?	1	STROBE?	14	AUTO FEED?
?	?	2	Data Bit 0	15	ERROR?
?	?	3	Data Bit 1	16	INIT?
?	?	4	Data Bit 2	17	SLCT IN?
?	?	5	Data Bit 3	18	Ground
?	?	6	Data Bit 4	19	Ground
?	?	7	Data Bit 5	20	Ground
?	?	8	Data Bit 6	21	Ground
?	?	9	Data Bit 7	22	Ground
?	?	10	ACK?	23	Ground
?	?	11	BUSY	24	Ground
?	?	12	PE	25	Ground
?		13	SLCT		

13 25

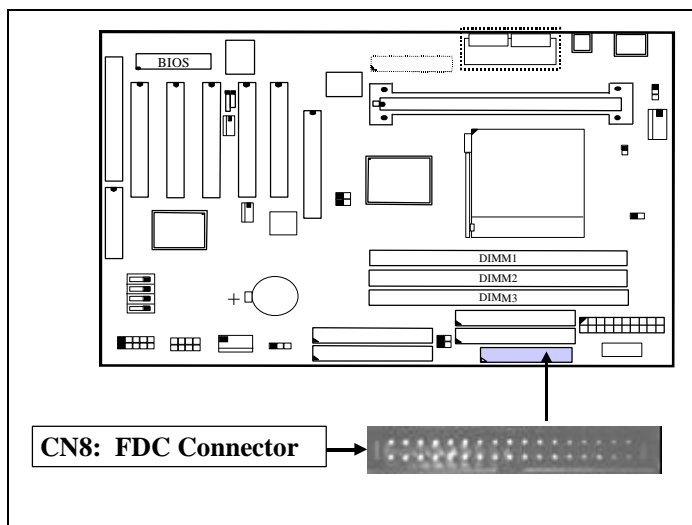
- (F) CN6: USB Port 1 (Universal Serial Bus) Connector**
- (G) CN7: USB Port 2 (Universal Serial Bus) Connector**



Pin assignment of USB connector:



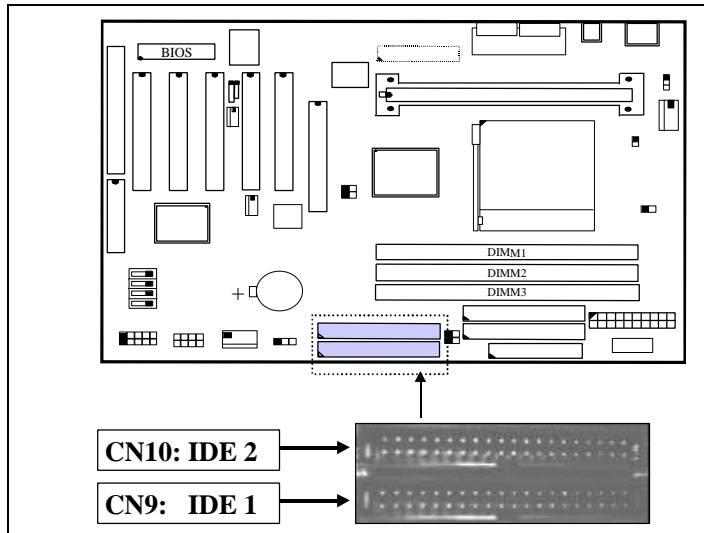
- (H) CN8: Floppy Disk Control Port Connector (Use IRQ6, DMA channel 2)**



(I) CN9 : IDE 1 Connectors (Secondary ATA/33 IDE Port: 170H, IRQ 15)

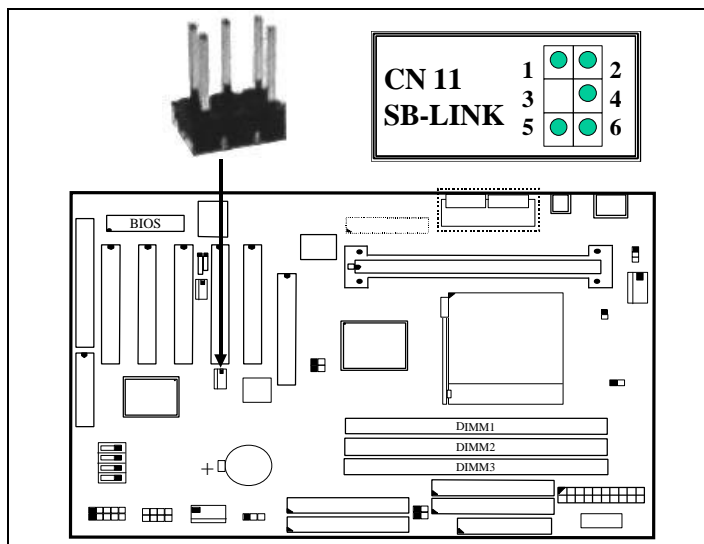
(J) CN10: IDE 2 Connectors (Primary ATA/33 IDE Port: 1F0H, IRQ 14)

There are two IDE cables come with the mainboard. Since IDE1 and IDE2 supports the ATA/33 mode. Please use the 40-conductor cable to connect the IDE devices.



(K) CN11: SB-LINK Connector

(For PCI bus sound cards, such as Creative™ Labs EMU8008 sound chip)

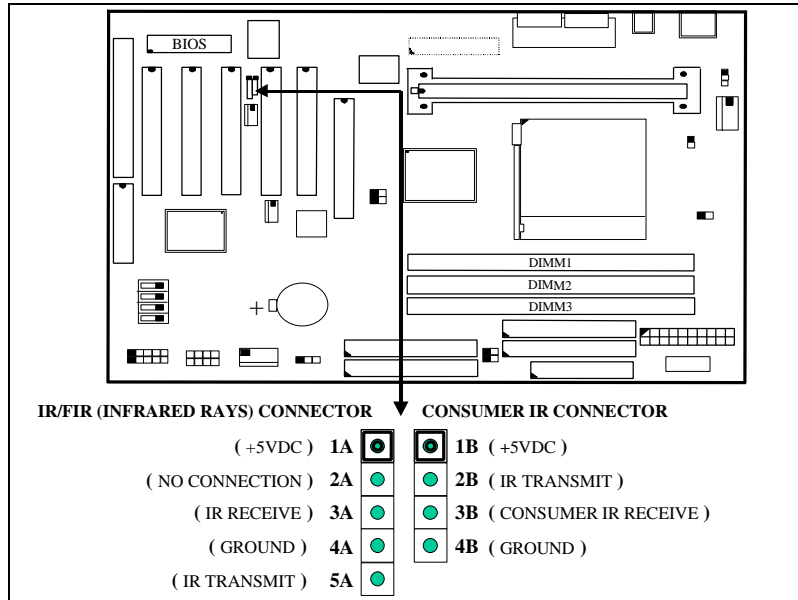


Pin assignment of SB-LINK Connector:

<u>1</u>	<u>2</u>	<u>Pin #</u>	<u>Signal name</u>	<u>Pin #</u>	<u>Signal name</u>
?	?	1	GNT#	2	Ground
	?	3	Key	4	REQ#
?	?	5	Ground	6	SERIRQ
5	6				

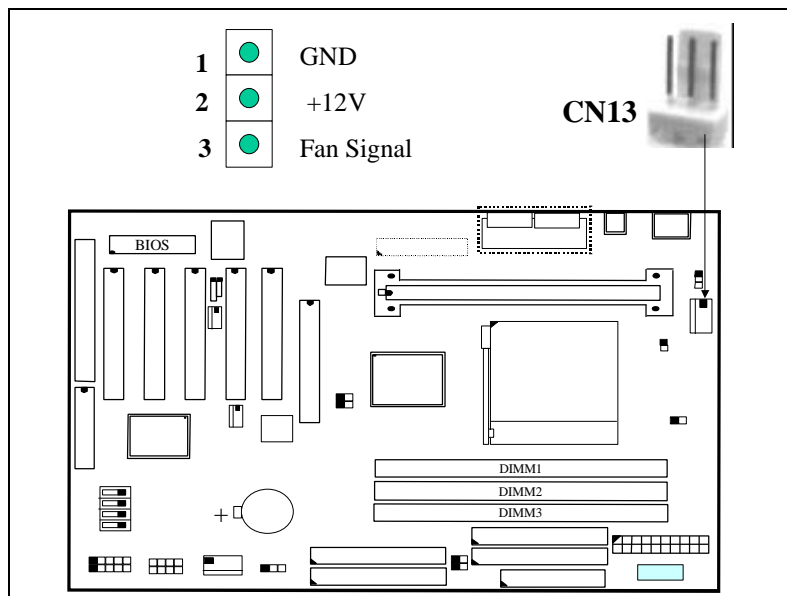
(L) CN12: IR / FIR (Infrared Rays) Connector

Consumer IR Connector (Consumer IR connector is active only when W83977CTF-AW I/O Chip is installed on position U9)

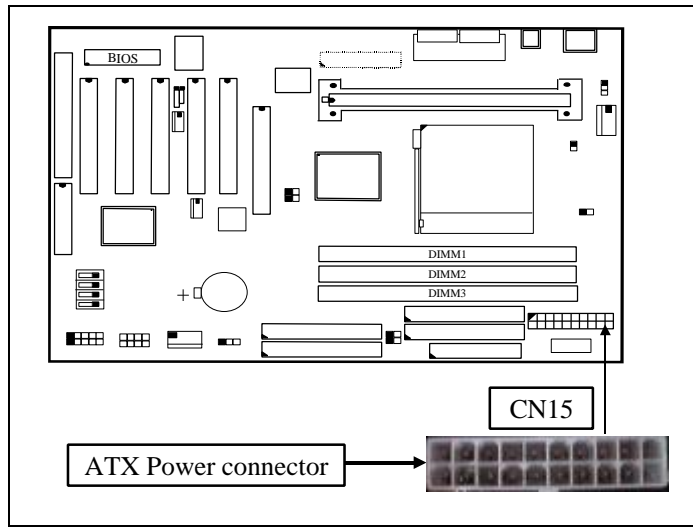


CN 12 IR CONNECTOR (Consumer IR is optional)

(M) CN13: CPU Cooling Fan Power Connector



(N) CN15: ATX Power Connector

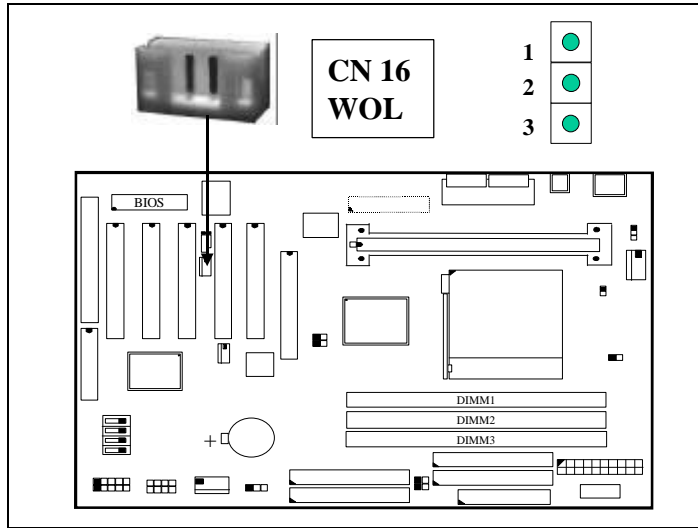


Pin assignment of ATX power connector

<u>11</u>	<u>1</u>	<u>Pin #</u>	<u>Signal name</u>	<u>Pin #</u>	<u>Signal name</u>
?	?	11	+ 3.3V DC	1	+ 3.3V DC
?	?	12	- 12V DC	2	+ 3.3V DC
?	?	13	Ground	3	Ground
?	?	14	PS-ON	4	+ 5V DC
?	?	15	Ground	5	Ground
?	?	16	Ground	6	+ 5V DC
?	?	17	Ground	7	Ground
?	?	18	- 5V DC	8	PW-OK
?	?	19	+ 5V DC	9	+ 5V SB
?	?	20	+ 5V DC	10	+ 12V DC
20	10				

(O) CN16: WOL (Wake On LAN) Connector

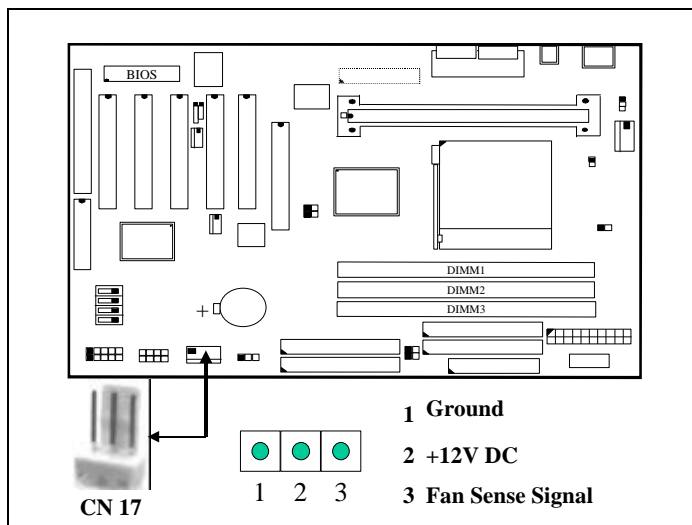
In order to use the WOL LAN card to trigger the power of the PC system, the switching power supply must be able to provide at least 700mA current driving ability on the “5V standby” voltage.



Pin assignment of WOL Connector

1	2	3	Pin #	Signal name	Pin #	Signal name	Pin #	Signal name
?	?	?	1	5V standby	2	Ground	3	WOL Signal

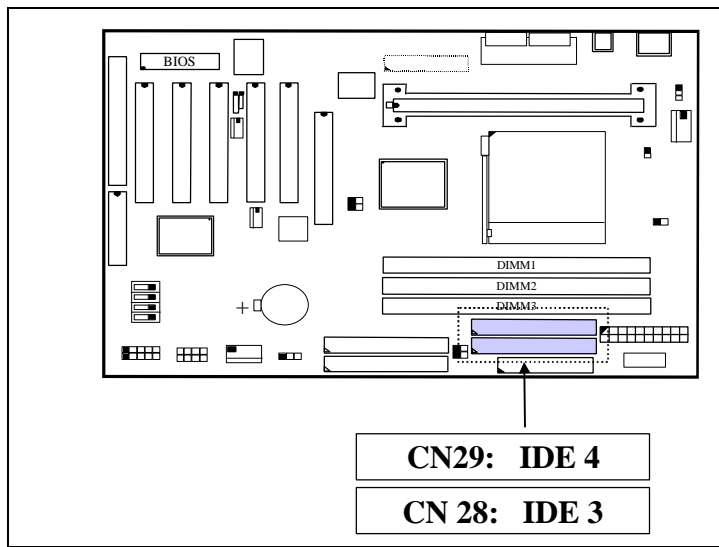
(P) CN17: Chassis Fan Power Connector



(Q) CN28 :IDE 3 Connectors (Primary ATA/66 IDE port)

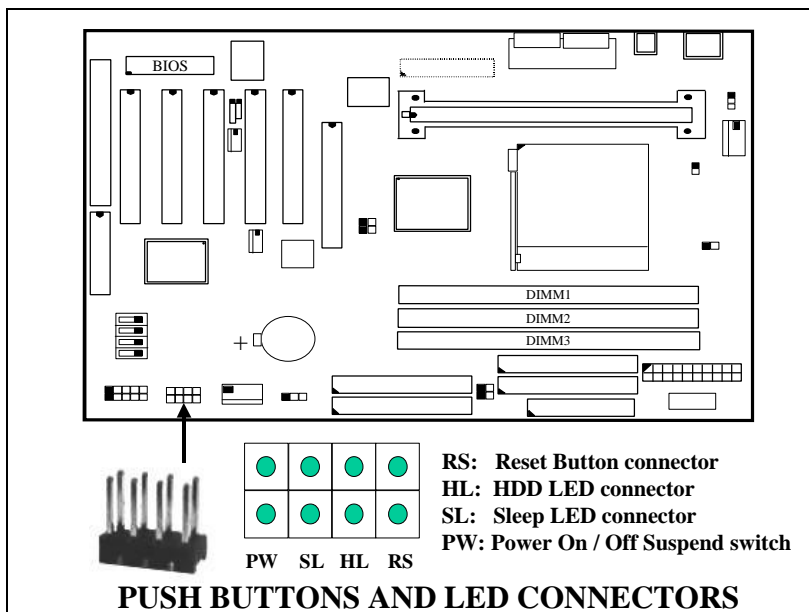
(R) CN29: IDE 4 Connectors (Secondary ATA/66 IDE port)

There are two IDE cables come with the mainboard - the 80-conductor cable and the 40-conductor cable. IDE3 and IDE4 support the ATA / 66 burst data transfer rate. So the performance will be doubled when compared with the traditional ATA /33 mode. In order to maximize the data transfer rate on these IDE port, the 80-conductor cable is recommended to be used to connect the IDE devices. (please refer to Section 3-6 to configure these ATA/66 IDE ports)



(S) Push buttons and LED connectors

A series of connectors are designed on the mainboard to connect the push buttons and LED indicators on the front panel. Followings are the details:



1. **RS** Reset Button Connector

<u>Pin #</u>	<u>Signal name</u>	<u>Pin1&2</u>	<u>Function</u>
1	Reset Control	Open	No action
2	Ground	Short	System Reset

2. **HL** IDE HDD LED Connector

<u>Pin #</u>	<u>Signal name</u>
1	+ 5V DC Pull-up
2	HDD Active Signal

3. **SL** Sleep LED Connector

This LED will be lightened when the AC power is connected and the system is power off, darkened when the AC power is disconnected or the system is powered on.

<u>Pin #</u>	<u>Signal name</u>
1	Signal Pin
2	Ground

4. **PW** Power On / Off and External Suspend Switch Connector

According to the setup in CMOS, the PW connector has two functions. It can be the Power Switch or Suspend Switch of your PC system. (please refer to Section- 4.7 and section 4.9 for BIOS setup)

① **If the setup in CMOS is “Delay 4 Sec.”, the function of “PW” will be:****A. When system is power off :**

Press this switch, the system will power on. (when “password” is selected in the CMOS setup program, you will be unable to use the PW button to turn on the power of the PC system, please see Section 2.2 and Section 4.9 for more details.)

B. When system power is on :

a. The system is in Full-ON mode :

a-1. Click on this switch (less than 4 seconds), the system will be turned into Suspend mode. (turn into the GREEN mode)

a-2. Press and hold this switch for more than 4 seconds, the system will be powered off.

b. When the system is in Suspend mode :

b-1. Click on this switch (less than 4 seconds), the system will return to Full-ON mode.

b-2. Press and hold this switch more than 4 seconds, the system will be powered off.

② **The setup in CMOS is “Instant-off”:**

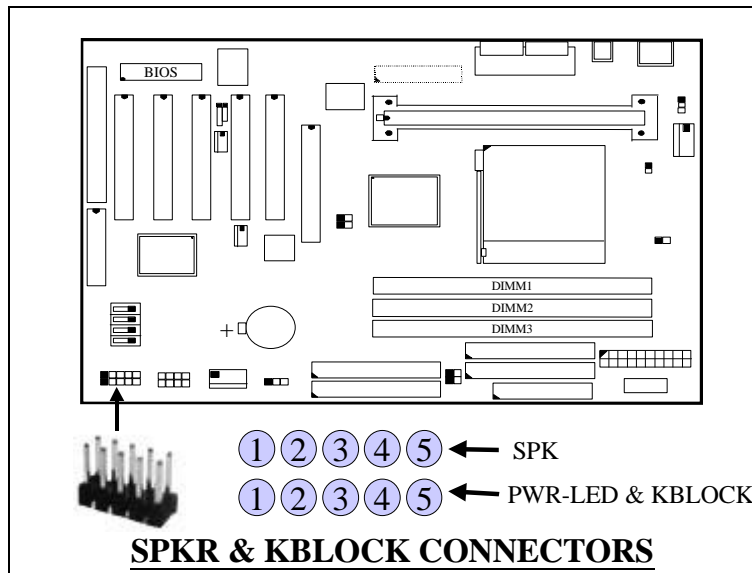
A. When system power is off :

Click on this switch, the system will be powered on. (when “password” is selected in the CMOS setup program, you will be unable to use the PW button to power on the PC system, please see Section 2.2 and Section 4.9 for more details.)

B. When system power is on :

Click on this switch, the system will be powered off instantly.

(T) Speaker and Key Lock connector:



SPK: Speaker connector

1	<u>Pin #</u>	<u>Signal name</u>
?	1	+ 5V DC
?	2	No Connection
?	3	No Connection
?	4	Speaker Data Signal
?	5	No Connection

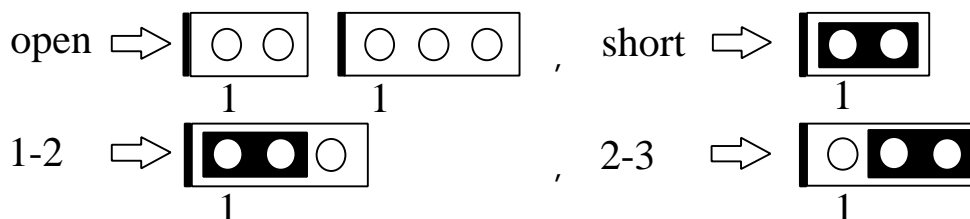
5

PWR-LED & KBLOCK: Front Panel Power LED and Key-Lock Connector

1	<u>Pin #</u>	<u>Signal name</u>
?	1	Pullup (+ 5V DC for Power LED)
?	2	No Connection
?	3	Ground
?	4	Keyboard Lock
?	5	Ground
5		

3.4 JUMPERS

This section will discuss the jumper setting on the mainboard. In order to let you have better idea of the jumper setting, please see below for the explanation of jumper settings before you start this section.

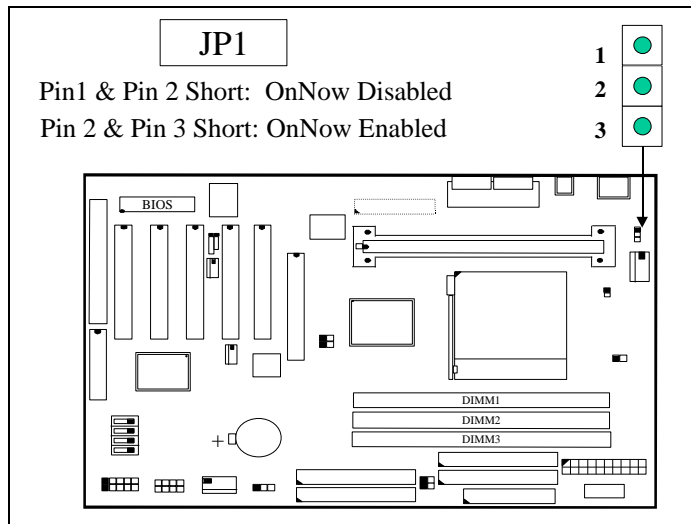


The following jumpers which labeled with “optional” means they are the optional choice for customers and the related components are normally not populated on the mainboard. In order to make the mainboard works properly in your PC system, please make sure all jumper settings are at correct before installing this mainboard.

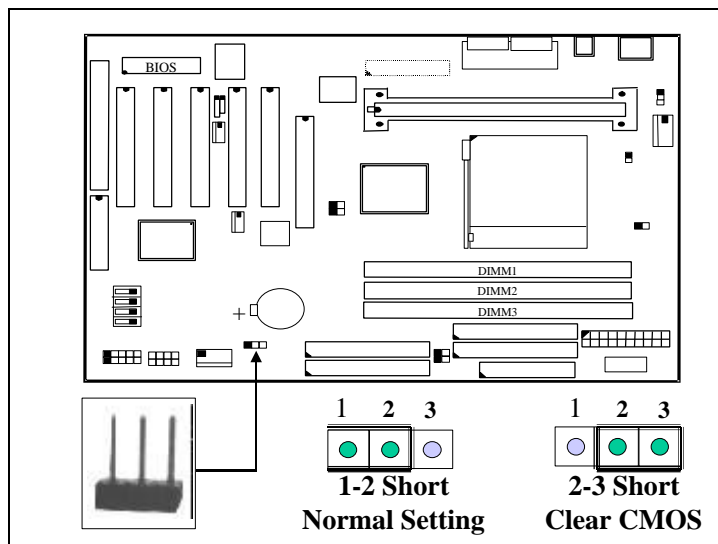
A jumper is a set of two, three or more jumper pins which allows users to make different system configuration by putting the plastic connector plug (mini-jumper) on it. The jumper setting is necessary when installing different components onto the mainboard.

(A) JP1: Keyboard and PS/2 Mouse OnNow function selection

The Keyboard and PS/2 Mouse OnNow function is designed on the mainboard and you can use keyboard and mouse key clicks to power on the PC system. However, there may have some keyboard and mouse are not compatible with the OnNow function. In this case, please use JP1 to disable the OnNow function.



(B) JP9: Clear CMOS Data Button

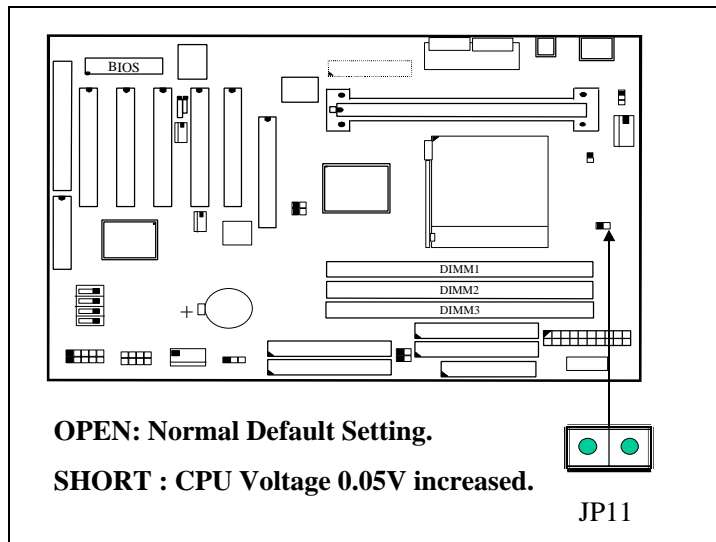


Note: JP9 is designed to clear the information which is stored in the CMOS memory. Improper connection on JP9 will cause mainboard failed to work. Please refer to the following steps to clear the CMOS

1. Unplug the AC power cable from the PC system.
2. Put the mini jumper on pin 2-3 of JP9 around 3 to 5 seconds and then return it to the original position (pin 1-2).
3. Re-connect the AC power cable.

(C) JP11: CPU Voltage Adjustment (Optional)

This mainboard will detect the CPU type and choose the proper CPU voltage. In case that you feel like to adjust the CPU voltage higher than what is detected by the mainboard. You may use JP11 to adjust the CPU voltage. When "SHORT" is selected, the CPU voltage will be 0.05V higher than normal voltage.



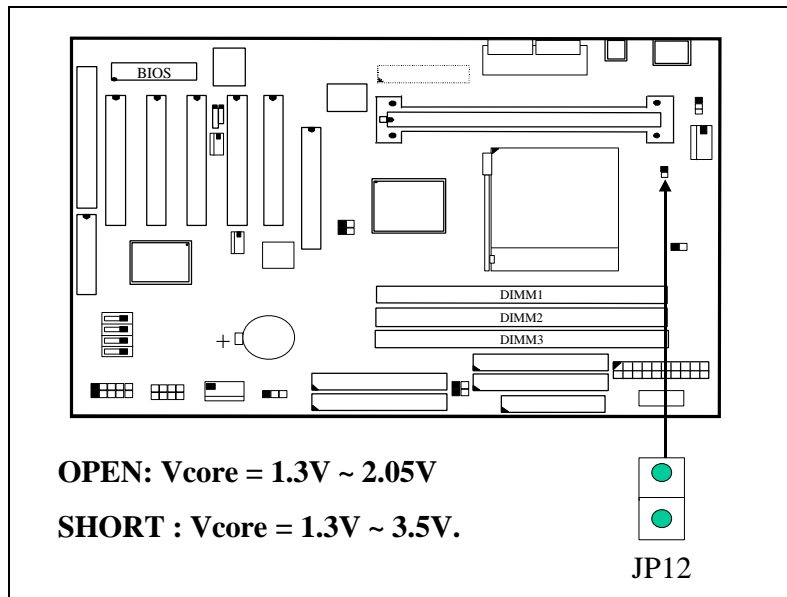
(D) JP12: CPU Voltage Range Selection (Optional)

JP12 is a special design on the mainboard which allows you to select the CPU voltage range (Vcore) to protect the processor from damage by accident.

The voltage regulator on the mainboard will generate 1.3V ~ 3.5V DC to support different processors. Basically, Most Pentium II mainboards will use the VID signal (VID0~VID4) from the processor to decide the proper CPU voltage (Vcore). In case that there is the poor connection between Slot 1 connector and CPU, or uninstall the CPU from the mainboard while the system power is "ON". Under such circumstance, mainboard may receive wrong VID signal and send wrong Vcore to the CPU. Unfortunately, wrong Vcore may destroy the CPU.

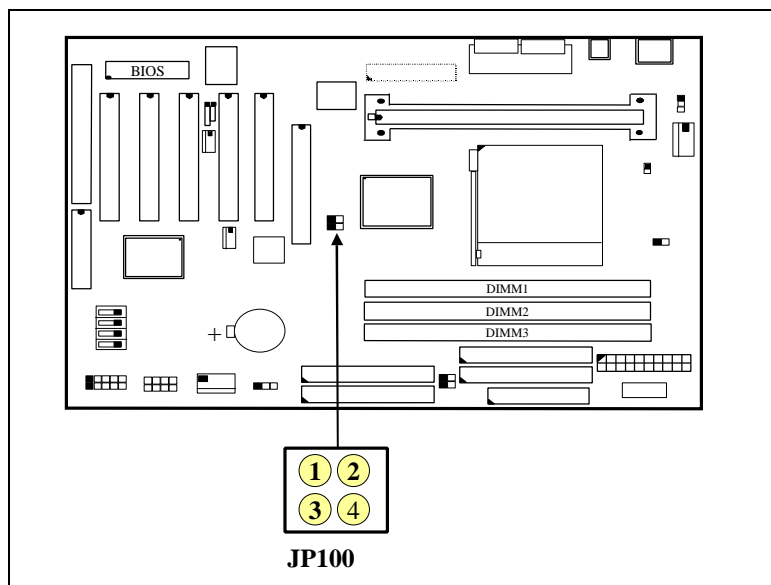
JP12 is designed to control the Vcore within the safe range so that it won't make any damage to the CPU because of wrong VID signal.

Since most Pentium II/III processors require the Vcore below 2.05V except few Pentium II processors. So the default setting of JP12 will limit the Vcore at 1.3V~2.05V. Please do not change the setting on JP12 unless your CPU needs the voltage higher than 2.05V.



(E) JP100: Over Clock Selection

JP100 is designed on the board for some special purpose. *(Please do not attempt to change this setting unless you are the technician).* Please refer to the following for functional description..



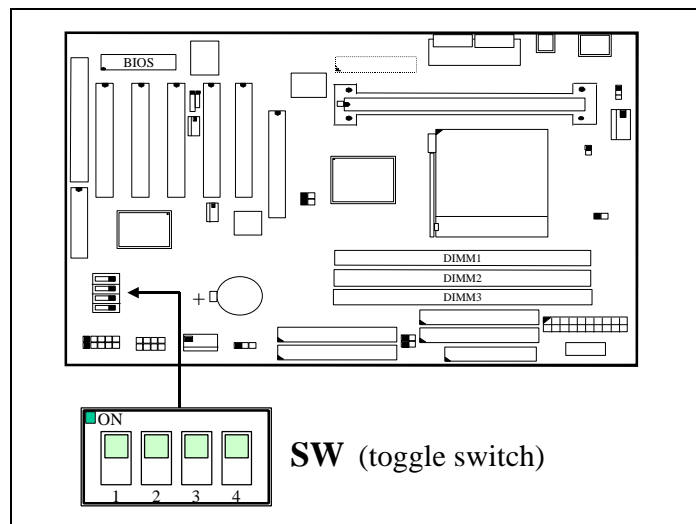
CPU CLOCK	Pin 1 & Pin 2	Pin 3 & Pin 4
Auto	Short	Open
66MHz	Open	Short
100MHz	Open	Open

**Note:**

1. JP100 will have no function unless "Default" is selected in the "CPU HOST CLOCK" in the BIOS setup program (refer to Section. 4-6). Please do not to make jumper setting on JP100 unless you are the professional technician.
2. When "Default" is selected, you may use JP100 to select different speed of CPU clock and force your CPU to use that clock speed instead of letting the system BIOS to select the CPU clock automatically.

(F) SWITCH SETTINGS

There is one "toggle switch" designed on the mainboard to select the CPU clock ratio. Basically, you have to check the specification of your CPU carefully because some of the CPU does not allow you to its default clock ratio setting. In another word. The switch setting on the mainboard is inactive when you are using the processor whose clock ratio is "locked" inside the CPU.



Note: SW setting is inactive when the clock ratio is specified in the CPU .

Settings of the toggle switch:

CPU (MHz)	Clock Ratio	SW1	SW2	SW3	SW4
233, 350	3.5X	OFF	OFF	ON	ON
266, 400	4.0X	ON	ON	OFF	ON
300, 450	4.5X	OFF	ON	OFF	ON
333, 500	5.0X	ON	OFF	OFF	ON
366, 550	5.5X	OFF	OFF	OFF	ON
400, 600	6.0X	ON	ON	ON	OFF
433, 650	6.5X	OFF	ON	ON	OFF
466, 700	7.0X	ON	OFF	ON	OFF
500, 750	7.5X	OFF	OFF	ON	OFF
533, 800	8.0X	ON	ON	OFF	OFF

(Picture of "toggle switch")



Note: In most case, you don't have to use the switch setting to select the CPU clock ratio because it can be detected by the mainboard automatically. The Celeron™ processor, Pentium™ II and Pentium™ III processors do not allow you to change the clock ratio, so the setting on the toggle switch will be invalid..

3.5 INSTALLATION OF DEVICE DRIVERS

There is a CD which comes with the mainboard. The CD contains the device drivers which is necessary when installing the mainboard. Please refer to the following procedures to install the device drivers.

A. Install the IDE driver:

(You don't have to install this driver if you are installing Windows 98. This driver is designed for Windows 95 and Windows NT only)

Step 1. Insert the CD into the CD ROM drive.

Step 2. Change the directory to "\\Driver\mainboard\Intel\IDE Driver "

Step 3. See "README.TXT" and choose the OS to install the device driver.

B. Install PCI Bridge:

(You don't have to install this driver if you are installing Windows 98. This driver is designed for Windows 95 only)

Step 1. Insert the CD into the CD ROM drive.

Step 2. Change the directory to "\Driver\mainboard\Intel\Utility "

Step 3. Run " WINP2X4.EXE" and follow the screen instruction to complete the installation.

C. Install the Hardware Monitoring Program: (optional)

(Please note that the Hardware Monitoring is optional on the board)

Step 1. Insert the CD into the CD ROM drive.

Step 2. Select directory "\Driver\mainboard\Hardware Monitoring\W83783S"

Step 3. Run "SETUP.EXE" to install the hardware monitoring program.

3.6 INSTALLATION OF THE ATA/66 IDE INTERFACE

There are four IDE interfaces designed on this mainboard and it will provide you the maximum flexibility when installing the IDE devices. Two of those IDE ports (CN28 and CN29) will support the ATA /66 data transfer mode to let your PC system have better performance than other PC systems.

The ATA /66 mode is backward compatible with all ATA /33 system. So you can use it to connect with all existing IDE devices. If you are using the hard disk drive which supports the ATA/66 data transfer protocol, you will find data transfer rate will be improved significantly when reading and writing data from the hard disk drive.

**Note:**

- 1. The 80-conductor cable is required to support the ATA/66 data transfer mode. If you are using the 40-conductor cable on these interface, then the performance may reduced to the regular ATA /33 mode.*
- 2. Please do not install any SCSI card on the PCI slot 2 to avoid hardware conflicting,*
- 3. If you are using this mainboard to upgrade your computer and the Windows operation system is already installed in the HDD. Then please have the HDD connected to either IDE 1 or IDE 2 connector when you are installing the device driver. If you have that HDD connected to the ATA/66 IDE interface, then the PC system will be failed to detect the HDD and you will be unable to load the operation system.*
- 4. When you have installed the Ultra ATA/66 device driver, you may feel free to shift the HDD to IDE3.*

Software Installation:**MS-DOS and Windows 3.1:**

The ATA /66 data transfer protocol is supported by the system BIOS and it will support MS-DOS 5.0 (or above) and Windows 3.1 directly without any device driver required (the 80-conductor cable is still required.). However, if you are using the Windows 9X, Windows 2000 and Windows NT operation system, then you have to install the device driver so that the onboard **ATA /66** interfaces will work properly with the IDE devices.

Windows 95:**A. Install the device driver when installing Windows 95**

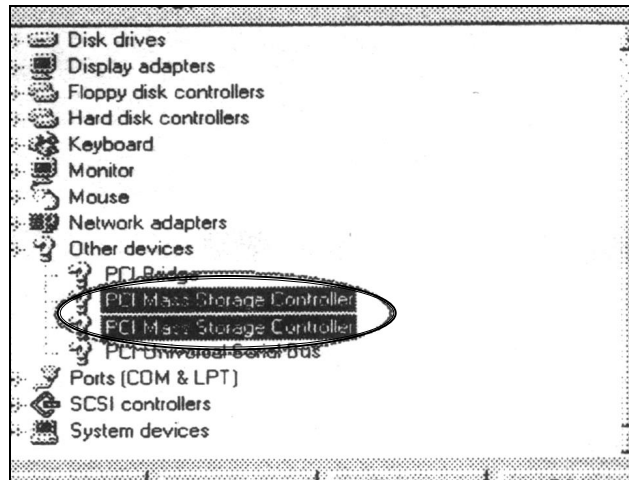
(you may use the 80-conductor cable and have the HDD connected to IDE3)

Step 1. When you have finished the installation of Windows 95 operation system, restart the PC system.

Step 2. When the Windows operation system is loaded properly, select the "**Control Panel**" and then double click on the "**System**" icon.

Step 3. Select the "**Device "manager"**" and select the "**Other Devices**".

Step 4. Remove the "PCI Mass Storage Controller" and then exit "System" and close the "Control Panel". (Refer to the following picture)



Step 5. Restart the PC system.

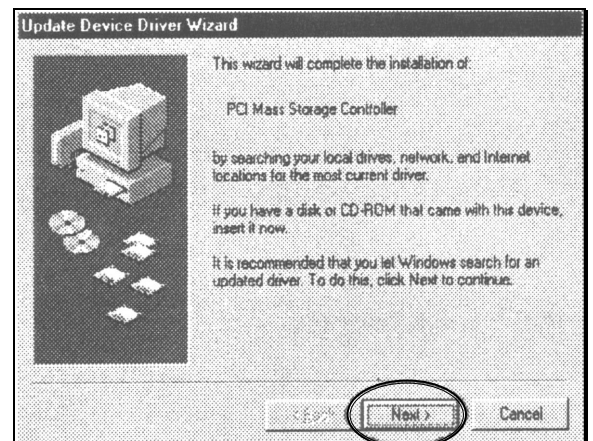
Step 6. Refer to the next procedure "**B. Install the drivers with the existing Windows 95**" and continue the installation.

B. Install the drivers with the existing Windows 95

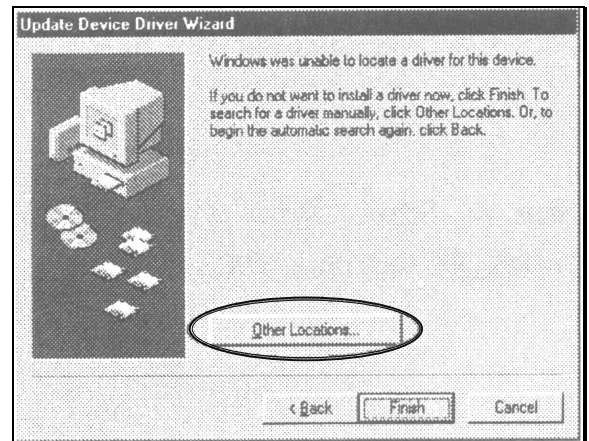
(you may use the 80-conductor cable and have the HDD connected to IDE3)

Step 1. If you are using this mainboard to upgrade your PC system, then the Windows operation system will detect new hard ware when you power on your PC system. The "**update Device Driver Wizard**" will appear on the screen indicating that it has found a "**PCI Mass Storage Controller**".

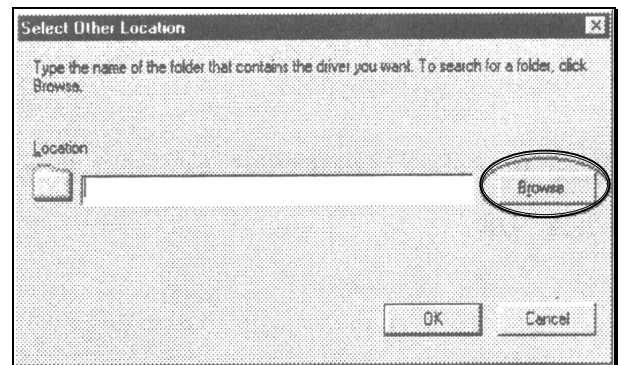
Step 2. Click on "**Next**" Button to start the installation of the device driver.



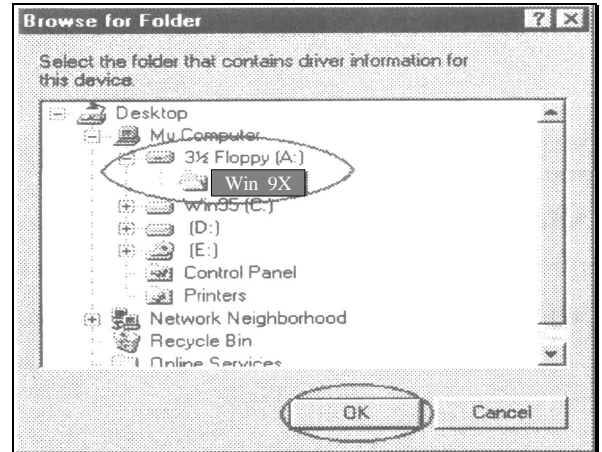
Step 3. Click "**Other Locations**" button.



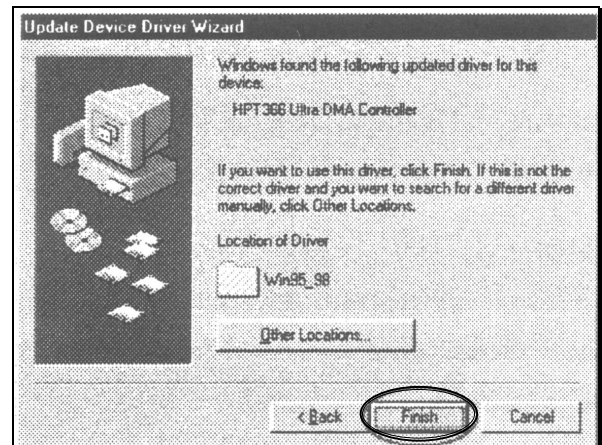
Step 4. Insert the "**Ultra ATA /66 Device Driver**" floppy diskette into the floppy disk drive. (A:) and then click the "**Browse**" button.



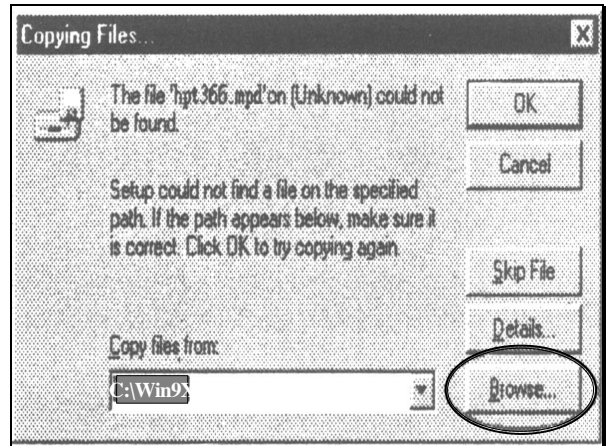
Step 5. Select "**Floppy (A)**" then choose "**Win9X**" folder. And then click the "**OK**" button.



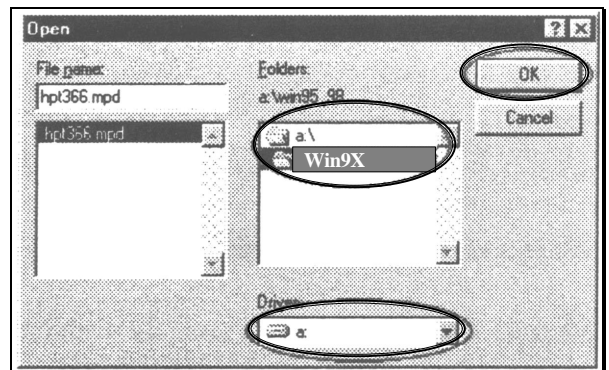
Step 6. When the device driver is installed, click on the "**Finish**" button.



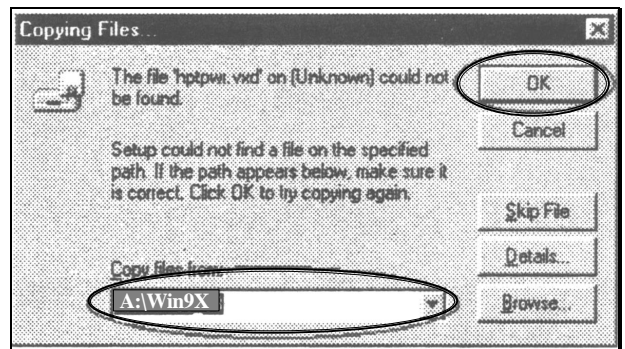
Step 7. Click on the "**Browse ...**" button.



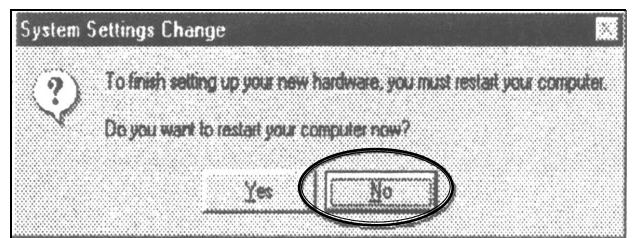
Step 8. Select the "**Win9X**" folder in drive A and then click on the "**OK**" button.



Step 9. When you see "**A:\Win9X**" is selected in the dialog box, click "**OK**" button.

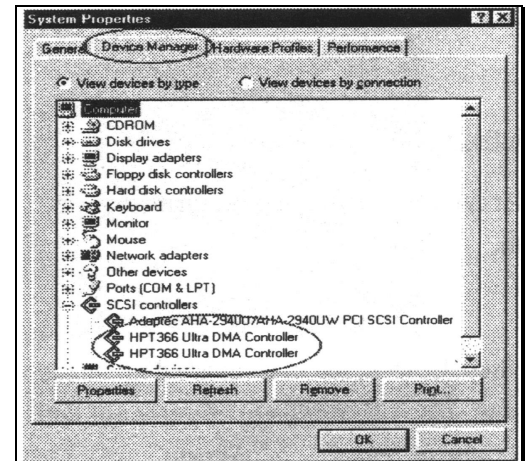


Step 10. Click the "**No**" button to install another "**PCI Mass Storage Controller**".



Step 11. When the installation is completed, the system will ask you to restart the computer. Click the "**Yes**" button to restart the computer

Step 12. When the PC system has restarted, select "**Control Panel**" → "**System**" and then select "**Device Manager**" → "**SCSI Controller**". If you can see the device as show in the picture, then the device driver is installed properly..



Windows 98:

A. Install the device driver when installing Windows 98

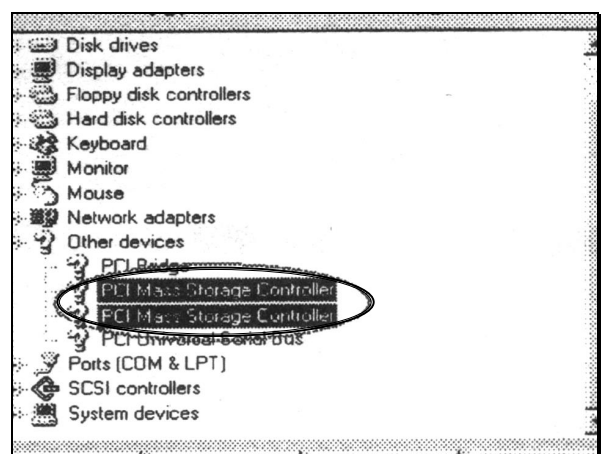
(you may use the 80-conductor cable and have the HDD connected to IDE3)

Step 1. When you have finished the installation of Windows 98 operation system, restart the PC system.

Step 2. When the Windows operation system is loaded properly, select the "**Control Panel**" and then double click on the "**System**" icon.

Step 3. Select the "**Device manager**" and select the "**Other Devices**".

Step 4. Remove the "**PCI Mass Storage Controller**" and then exit "**System**" and close the "**Control Panel**"...



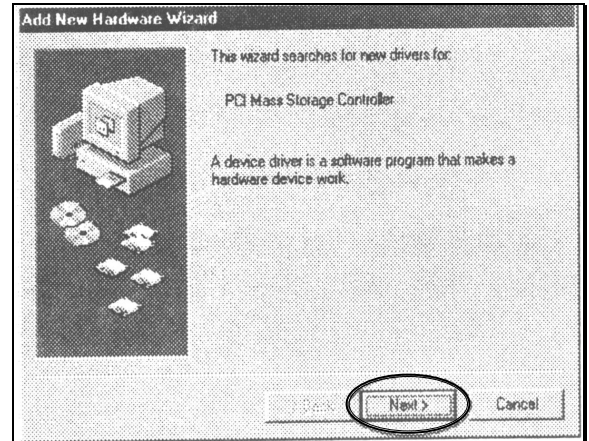
Step 5. Restart the PC system.

Step 6. Refer to the next procedure "**B. Install the drivers with the existing Windows 98**" and continue the installation.

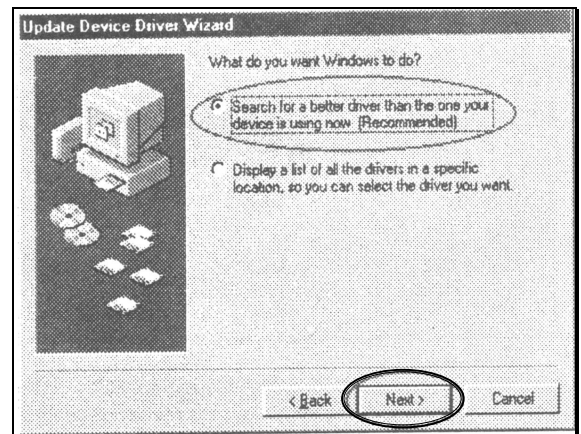
B. Install the drivers with the existing Windows 98

(you may use the 80-conductor cable and have the HDD connected to IDE3)

Step 1. If you are using this mainboard to upgrade your PC system, then the Windows operation system will detect new hard ware when you power on your PC system. The "Add New Hardware Wizard" will appear on the screen indicating that it has found a "PCI Mass Storage Controller". Click "Next" button.

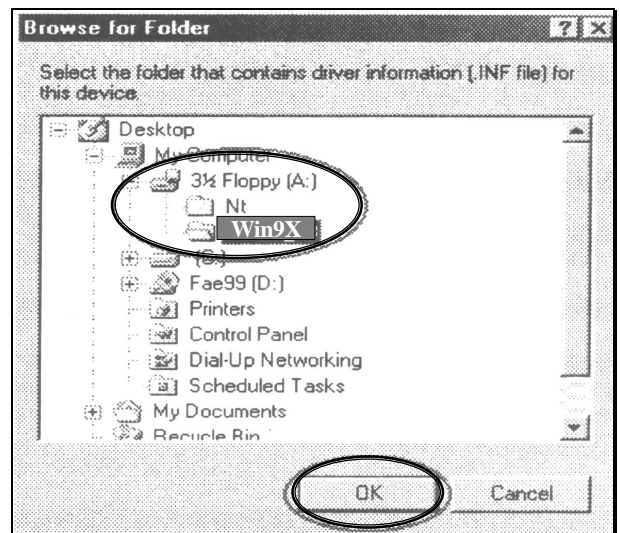


Step 2. Select " Search for a better driver than the one your device is using now." And then click "Next".



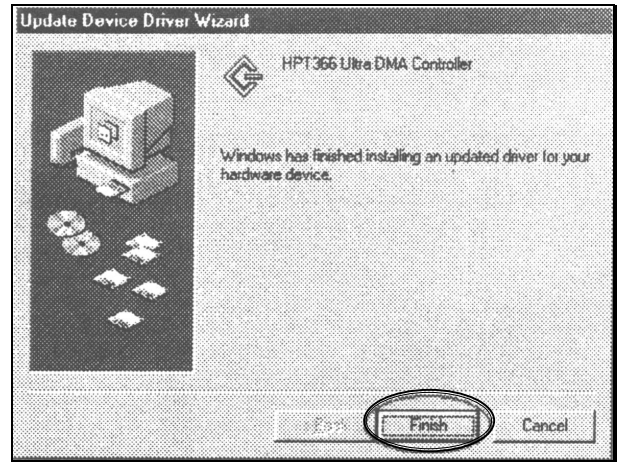
Step 3. Insert the " Ultra ATA /66 Device Driver" diskette into the floppy disk drive. (A:) and then click the "Browse " button.

Step 4. Select the "Win9X" folder in "Drive A". and then click the "OK" button..

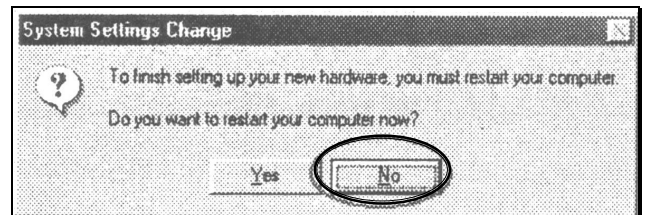


Step 5. Click the "Next" buttons and follow the screen instruction to continue the installation.

Step 6. When the installation of the device driver is completed, Click "Finish." button

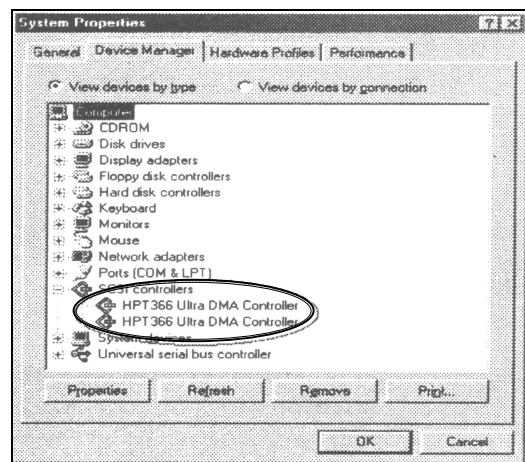


Step 7. click "No" to install another "PCI Mass Storage Controller".



Step 8. When the installation is completed, the PC system will ask you to restart your computer, click "Yes" to restart the PC system.

Step 9. When the PC system has restarted, select "Control Panel" → "System" and then select "Device Manager" → "SCSI Controller". If you can see the device as show in the picture, then the device driver is installed properly.



Windows NT 4.0:

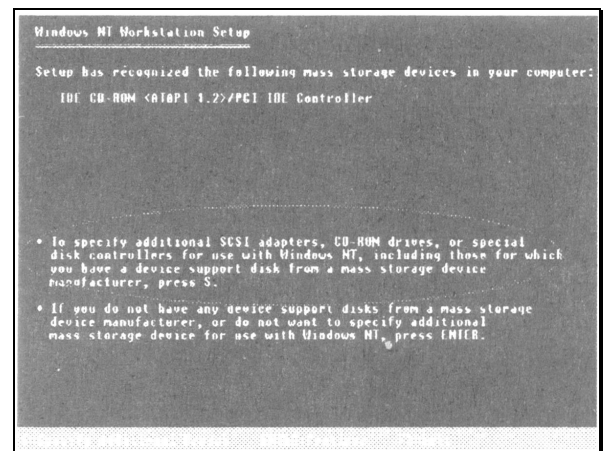
When install the Windows operation system, you will have to load the operation system from the CD ROM drive. So please click on the "Del" key during the POST (Power-On-Self-Test) to trigger the BIOS setup program. Select the "BIOS FEATURES SETUP" → "BOOT SEQUENCE" and then select "CDROM,C,A" so that the PC system will load the O/S from the CD ROM drive. (*have the CD ROM drive connected to IDE2 is recommended*)

A. Install the device driver when installing Windows NT

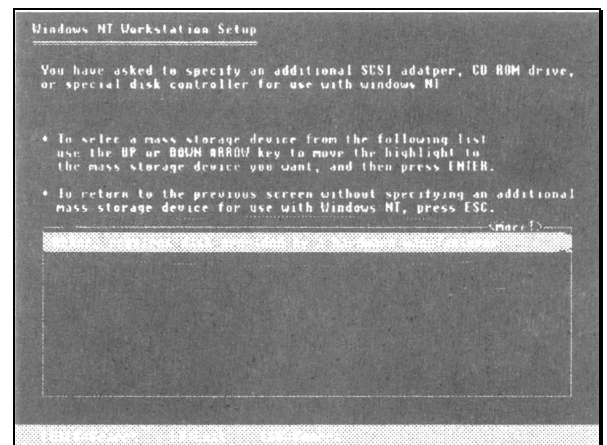
(use the 80-conductor cable and have the HDD connected to IDE3 is recommended.)

Step 1. When Windows NT is installed and it is restarting. you will see "Setup is loading files ..." Message displayed at the bottom of the screen, Click the "F6" key.

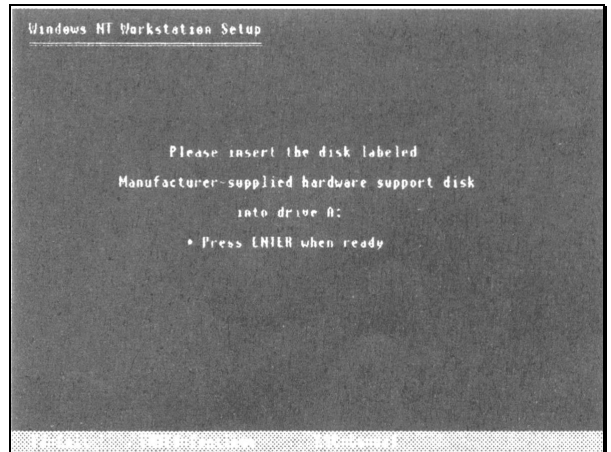
Step 2. There is the message displayed on the screen indicating Mass Storage Device is detected. (refer to the picture at right" Click the "S" key to install the ATA/66 driver.



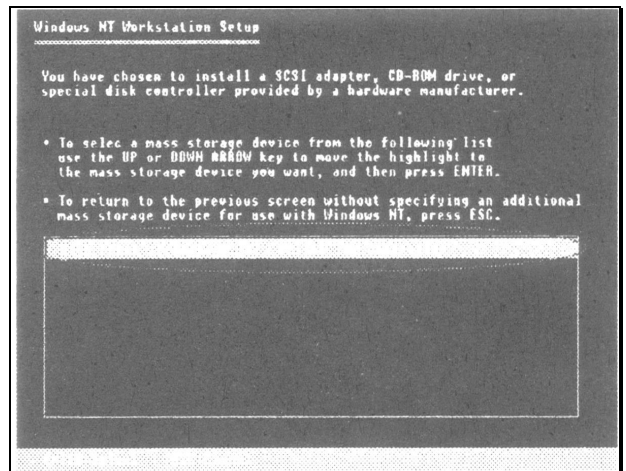
Step 3. Select "**Other, requires disk provided by a hardware manufacturer**" and then click the "**Enter**" key.



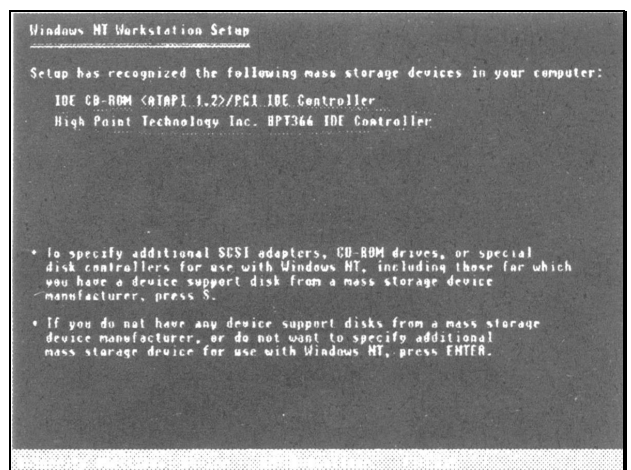
Step 4. Insert the " Ultra ATA /66 Device Driver" floppy diskette into the floppy disk drive. (A:\), and then click "Enter" again.



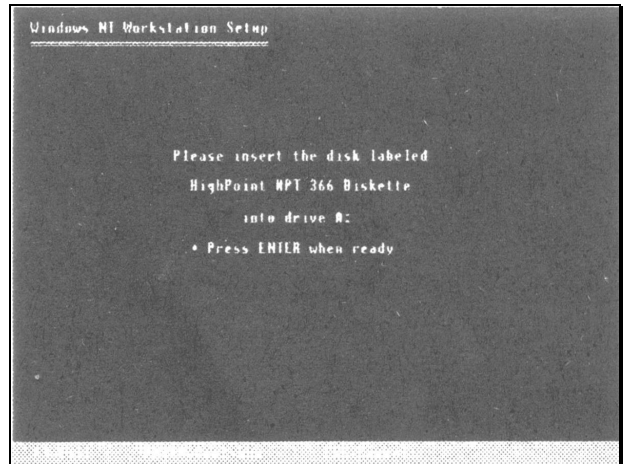
Step 5. Click the " Enter" key to continue the installation.



Step 6. Windows NT recognizes the High Point ATA/66 device as shown in the picture, Click the "Enter" key to continue.



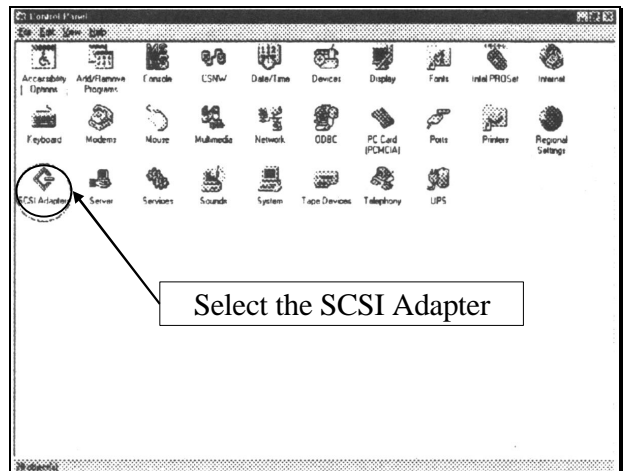
Step 7. When you have configured the HDD and specified the path. NT setup program will ask you to insert the disk into drive A again. Make sure the " Ultra ATA /66 Device Driver" diskette is in the floppy disk drive and then click the "Enter" to finish the installation.



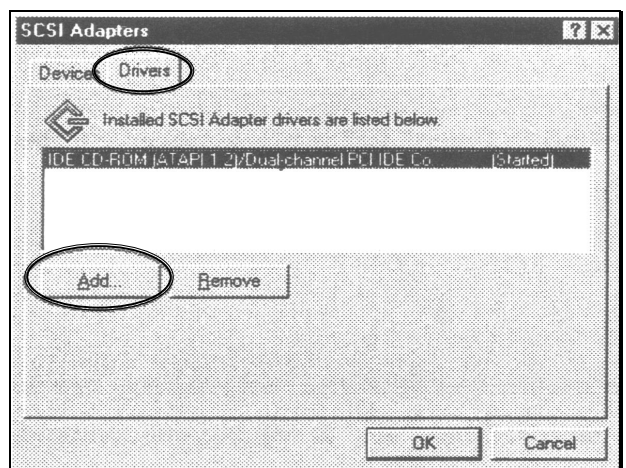
B. Install the drivers with the existing Windows NT

IMPORTANT: Please have the hard disk drive connected to IDE1 to start the Windows NT operation system. If you have the hard disk connected to the ATA/66 IDE ports, the PC system will be failed to detect the hard disk properly and you can not use it to load the operation system.

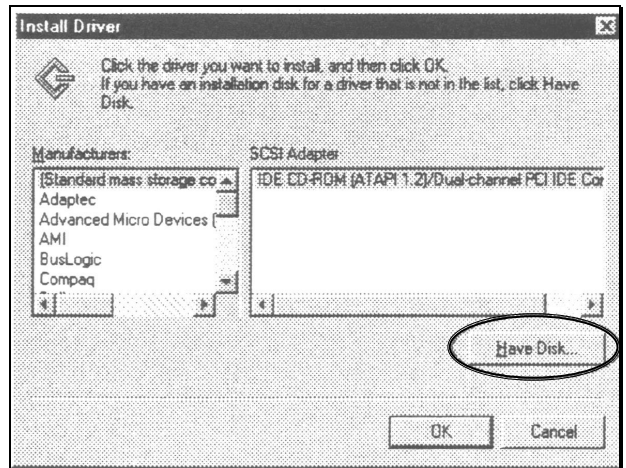
Step 1. Start the Windows NT operation system and open "Control Panel", and then double click on the "SCSI Adapter" icon.



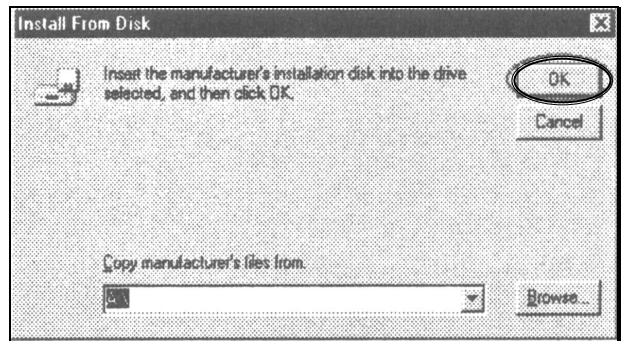
Step 2. Select "Drivers", and then click on the "Add" button.



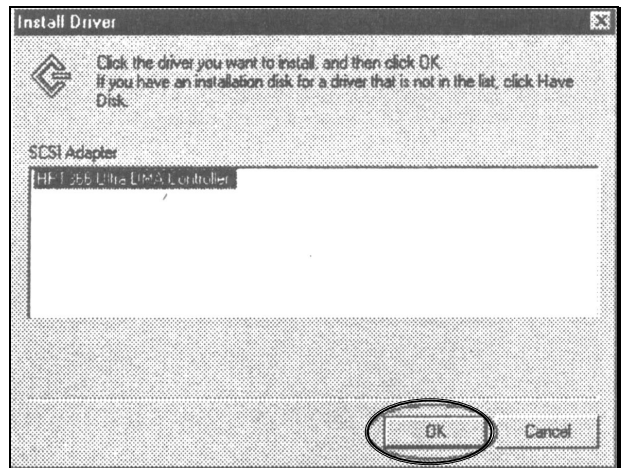
Step 3. Click the "Have Disk .." button.



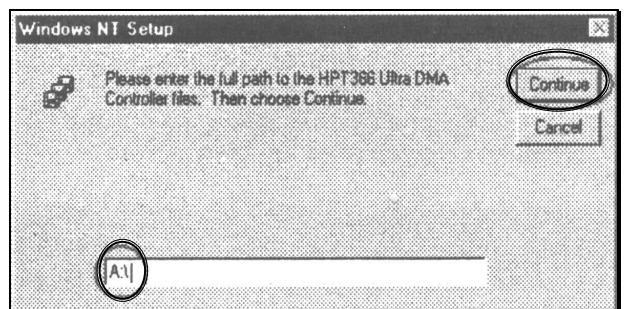
Step 4. Insert the "Ultra ATA/66 Device Driver" floppy disk into the FDD and then click the "OK" button.



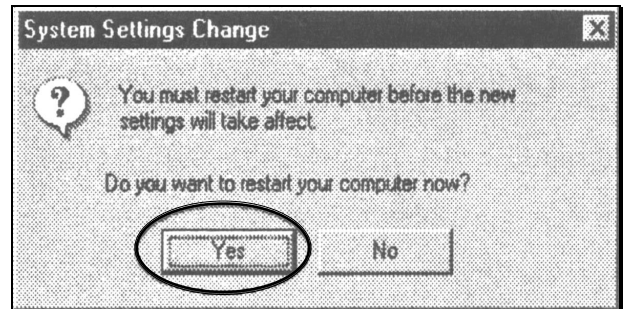
Step 5. When you see the High Point HPT366 Ultra DMA controller shown in the window, click the "OK" button.



Step 6. Key in "A:\\" in the dialog box and then click the "Continue" button.



Step7. When the installation is completed, you will have to restart the PC system so that the device driver will be enabled. Click the "Yes" button to restart the computer.



Note: When you have finished the installation of the device driver, you may feel free to have the hard disk drive connected to IDE 3 and use it to load the operation system.

4. AWARD BIOS SETUP

4.1 GETTING STARTED

When the system is first time powered on or reset by user, the system BIOS will enter the POST routines (Power On Self Test), which will execute a diagnostics and initialize the computer. In case that there is any error or malfunction detected, the BIOS will give a series of beeping sound or display the error message on screen.

During the power on self testing (POST), the following message appears at the lower left corner of the screen:

" Press **DEL** to enter SETUP "

To start the BIOS Setup program, please press the **DEL** key. The STANDARD CMOS SETUP screen as shown in figure Fig. 4-1 will be triggered:

4.2 MAIN MENU

ROM PCI / ISA BIOS (2A69KXXX)
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

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

Fig. 4-1 CMOS SETUP MAIN MENU screen.

4.3 CONTROL KEYS

Listed below is the explanation of the keys displayed at the bottom of the screens which will be used in the CMOS SETUP program :

- Arrow Keys** : Use the arrow keys to move the cursor to the desired item.
Enter : Select the desired item.
F1 : Display the help screen for the selected feature.
(Shift)F2 : To change the screen color, total 16 colors.
ESC : Exit to the previous screen.
PgUp(-)/PgDn(+) : To modify or change the content of the highlighted item.
F5 : Retrieves the previous value from CMOS data, (only the current page setup will be retrieved).
F7 : Loads the SETUP default values from BIOS default table, (only the current page setup will be loaded).
F10 : Save all changes to CMOS RAM from the MAIN MENU

4.4 STANDARD CMOS SETUP

ROM PCI / ISA BIOS (2A69KXXX)
 STANDARD CMOS SETUP
 AWARD SOFTWARE, INC.

Date (mm : dd : yy) : Mon, Apr 20 1998																	
Time (hh : mm : ss) : 16 : 03 : 33																	
HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE									
Primary Master	Auto	0	0	0	0	0	0	Auto									
Primary Slave	None	0	0	0	0	0	0	-----									
Secondary Master	Auto	0	0	0	0	0	0	Auto									
Secondary Slave	None	0	0	0	0	0	0	-----									
Drive A : 1.44M, 3.5 in.					<table border="1"> <tr> <td>Base Memory :</td> <td>640 K</td> </tr> <tr> <td>Extended Memory :</td> <td>xxxxxx K</td> </tr> <tr> <td>Other Memory :</td> <td>xxxxxx K</td> </tr> <tr> <td><hr/>Total Memory :</td> <td>xxxxxx K</td> </tr> </table>					Base Memory :	640 K	Extended Memory :	xxxxxx K	Other Memory :	xxxxxx K	<hr/> Total Memory :	xxxxxx K
Base Memory :	640 K																
Extended Memory :	xxxxxx K																
Other Memory :	xxxxxx K																
<hr/> Total Memory :	xxxxxx K																
Drive B : None																	
Floppy 3 Mode Support: Disable																	
Video : EGA/VGA																	
Halt On : All Errors																	
ESC : Quit			??? ? : Select Item			PU/PD/+/- : Modify											
F1 : Help			(Shift)F2 : Change Color														

Fig. 4-2 STANDARD CMOS SETUP screen.

MODE :

The BIOS on the mainboard is the updated one and which provides three different modes to support both normal IDE HDD and the one which is above 528MB:

- **NORMAL** : For IDE hard disk drives which is smaller than 528MB.
- **LBA** : For IDE hard disk drive which is above 528MB (ideally, it can be as big as 8.4GB) that use Logic Block Addressing (LBA) mode.
- **Large** : For IDE HDD which is above 528MB and does not support LBA mode.
- **Auto** : This mode will auto-detect your IDE driver during boot-up.

Floppy 3 Mode Support: (Default setting: disabled)

This mode is for the Japanese 3.5 inch high capacity floppy disk drive. If you do not have such drive installed in your PC system, please use the default setting.

4.5 BIOS FEATURES SETUP

ROM PCI / ISA BIOS (2A69KXXX)
 BIOS FEATURES SETUP
 AWARD SOFTWARE, INC.

Virus Warning : Disabled CPU Internal Cache : Enabled External Cache : Enabled CPU L2 Cache ECC Checking : Enabled Processor Number Feature : Disabled Quick Power On Self Test : Enabled ATA / 66 SCSI Boot Order : ATA,SCSI Boot Sequence : A,C,SCSI Swap Floppy Drive : Disabled Boot Up Floppy Seek : Enabled 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 PS/2 mouse function control : Enable PCI/VGA Palette Snoop : Disabled OS Select For DRAM > 64MB : Non-OS2 HDD S.M.A.R.T. capability : Disabled	Video BIOS Shadow : Enabled C8000-CBFFF Shadow : Disabled CC000-CFFFF Shadow : Disabled D0000-D3FFF Shadow : Disabled D4000-D7FFF Shadow : Disabled D8000-DBFFF Shadow : Disabled DC000-DFFFF Shadow : Disabled ESC : Quit ??? ? : Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift)F2 : Color F7 : Load Setup Defaults
---	---

Fig. 4-3 BIOS FEATURES SETUP screen.

Virus Warning :

Basically, The default setting of this feature is "Disabled" In order to avoid virus infection happens on your PC system, This mainboard provides the virus warning features in the BIOS. During and after the operation system is loaded, any attempt to write to the boot sector or partition table on the IDE hard disk drive will trigger this feature and give you some warning messages on the screen and then halt the system. When you find the message on your screen, please run the anti-virus program to see whether your system is infected by a virus or not.

Enabled : A warning message will be displayed on the screen when something attempts to access the boot sector or hard disk partition table.

Disabled : No warning message will appear on the screen when anything attempts to access the boot sector or hard disk partition table.

CPU Internal Cache / External Cache : (default setting: Enabled)

These fields allow you to turn on or turn off the Level 1 and Level 2 cache that built-in Pentium™ II or Celeron™ processors.

CPU L2 Cache ECC Checking: (default setting: Enabled)

This option will enable or disable the ECC checking on the CPU L2 cache. The ECC checking will ensure the accuracy of the data stored on the L2 cache.

Processor Number Feature: (default setting: Disabled)

You can not see this selection option unless you have the Pentium III processor installed on the mainboard. There is the serial code inside every Pentium III processor and it will be accessed by application to show your personal ID. If you don't feel like to give your serial code to other people, select the "Disabled" setting.

Quick Power on Self Test: (default setting: Enabled)

The Quick Power On Self Test will skip some test and speed up the boot process. If you find the system is working normally, you can always enable this feature so that you don't have to wait too long on the POST.

ATA /66 & SCSI Boot Order: (default setting: ATA, SCSI)

This selection field allows you select the boot sequence between the SCSI interface card or the onboard ATA/66 interface. If you want to use the IDE HDD connected on the ATA/66 port to load the operation system, please select "SCSI,A,C" or "SCSI,C,A" in the "Boot Sequence".

Note, if you want to use the CD ROM drive to load the operation system, please connect the CD ROM drive to IDE 1 or IDE2. You can not use IDE3 and IDE4 to load the operation system from a CD ROM drive.

Boot Sequence : (default setting: A,C,SCSI)

This field allows you to use some other device to load the operating system which is connected to the ATA /33 interface. (IDE1 and IDE2). If you prefer to use the onboard ATA/66 interface to start the operation system then please select "SCSI,A,C" or "SCSI,C,A" in this field.

Swap Floppy Drive : (default setting: Disabled)

When enable this option, the device name of the floppy drives will be swapped, For example, drive A will be treated as drive B, and drive B as Drive A.

Security Option : (default setting: Setup)

This selection field allows you to select how to secure the PC system for you. There are two choice selectable - "Setup" and "System". Before you can apply the security option to your PC system, you have to select your own ""Supervisor Password" or "User Password" in the BIOS setup program.

When "Setup" is selected, you will have to input your "Passwords" before you can start the BIOS setup program. When you select "System", you will be unable to load the operation system if you don't key-in your personal "password"

PS/2 mouse function control : (default setting: Enabled)

This mainboard built-in a PS/2™ mouse port, In case that you prefer to connect your mouse to the serial port instead of using the PS/2™ mouse, you may choose "Disable" in this field so that the IRQ12 can be released for the other devices; If you are using the PS/2™ mouse, leave this field "Enabled".

PCI/VGA Palette Snoop : (default setting: Disabled)

Some display cards are non-standard VGA card (such as graphics accelerator or MPEG Card) which may not display color properly on your screen. "Enable" the setting in this field may correct this problem. Please leave it "Disabled" as the default setting shown above if you are using the normal display card.

OS Select For DRAM > 64MB : (default setting: Non-OS/2)

When you are using the "OS/2™" operating system and the system memory is more than 64MB, you will have to select the setting to "OS2", otherwise, leave this on the default setting "Non-OS2" for all other operating systems.

HDD S.M.A.R.T Capability : (default setting: Disabled)

There is the HDD which support the S.M.A.R.T. technology (Self Monitoring Analysis Reporting Technology). If your HDD support the SMART feature, you may enable this item and it will monitor and report the HDD healthy status to you.

4.6 CHIPSET FEATURES SETUP

ROM PCI / ISA BIOS (2A69KXXX)

CHIPSET FEATURES SETUP

AWARD SOFTWARE, INC.

Auto Configuration	: Enabled	Auto Detect DIMM/PCI Clk	: Enabled
EDO DRAM Speed Selection	: 60ns	Spread Spectrum Modulated	: Disabled
EDO CASx# MA wait State	: 2	CPU Host Clock (CPU/PCI)	: Default
EDO RASx# Wait State	: 2	CPU Warning Temperature	: 77? /170?
SDRAM RAS-to-CAS Delay	: 3	Current CPU Temperature	: xx? /xx?
SDRAM RAS Precharge Time	: 3	Current CPUFAN1 Speed	: 0 RPM
SDRAM CAS Latency Time	: 3	Current CPUFAN1 Speed	: xxxx RPM
SDRAM Precharge Control	: Disabled		
DRAM Data Integrity Mode	: Non-ECC		
System BIOS Cacheable	: Disabled		
Video BIOS Cacheable	: Disabled	VccCore : 1.63 V	+3.33V : .3.31V
8 Bit I/O Recovery Time	: 1	+5V : 4.99V	+12V : 12.03V
16 Bit I/O Recovery Time	: 1	-12V :-12.36V	- 5V : - 4.99V
Memory Hole at 15M-16M	: Disabled	Shutdown Temperature	: Disabled
Passive Release	: Enabled		
Delayed Transaction	: Disabled		
AGP Aperture Size (MB)	: 64	ESC : Quit	??? ? : Select Item
		F1 : Help	PU/PD/+/- : Modify
		F5 : Old Values	(Shift)F2 : Color
		F7 : Load Setup Defaults	

Fig. 4-4 CHIPSET FEATURES SETUP screen.

WARNING : *The selection fields on this screen are provided for the professional technician who can modify the Chipset features to meet some specific requirement. If you do not have the related technical background, do not attempt to make any change except the following items.*

Auto Configuration : (default setting : “Enabled”)

Auto Configuration selects predetermined optimal values of chipset parameters. When Disabled, chipset parameters revert to setup information stored in CMOS. Many fields in this screen are not available when Auto Configuration is Enabled.

EDO DRAM Speed Selection : (default setting : “60 ns”)

When “Auto Configuration” is “Enabled”, you may use this field to select the **EDO DRAM** access time. There are two optimal values suggested for the chipset and CPU registers. You may select either “60 ns” or “50 ns” according to the type of DRAM module which is installed on the board,. Basically, “50 ns” will let you have better performance but it may cause incompatibility problem if the DRAM module is not fast enough. So “60ns” is recommended causes it works with most DRAM modules.

When “Auto Configuration” is “Enabled”, the “DRAM speed selection” field will be disappeared and you may use the other fields to configure the DRAM speed. Basically, it is not recommended unless you are the professional technician.

EDO CASx# MA / RASx# Wait State : (default setting : “2”)

This item allows you to select MA Wait State for the related CAS and RAS memory control signal

SDRAM Speed Selection :

Below the “CPU Host/ PCI Clock” field, there are the selection fields that allow you to select parameters for your DRAM sub-system. Use these fields to configure the DRAM parameter properly will give you the best performance. However, improper setting on these fields will make your PC system become extremely unstable. Basically, please do not attempt to make the change on these fields unless you are the professional technician.

The Parameters shown on the previous page are the default setting and they are the optimal values suggested for the chipset and CPU registers. These parameters may not be able to let you have the best performance, but it will let you have the best reliability.

System BIOS Cacheable: (default setting : “Disabled”)

Select Enabled allows caching of the system BIOS ROM at F000h-FFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

Enabled	BIOS access cached
Disabled	BIOS access not cached

Video BIOS/RAM Cacheable: (default setting : “Disabled”)

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

Enabled	Video BIOS /RAMaccess cached
Disabled	Video BIOS /RMA access not cached

8 Bit I/O Recovery Time: (default setting : “1”)

The recovery time is the length of time, measured in CPU clocks, which the system will delay after the completion of an input/output request. This delay takes place because the CPU is operating so much faster than the input/output bus that the CPU must be delayed to allow for the completion of the I/O. This item allows you to determine the recovery time allowed for 8 bit I/O. Choices are from NA, 1 to 8 CPU clocks

16 Bit I/O Recovery Time: (default setting : “1”)

This item allows you to determine the recovery time allowed for 16 bit I/O. Choices are from NA, 1 to 4 CPU clocks

Memory Hole At 15M-16M: (default setting : “Disabled”)

In order to improve performance, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory space below 16 MB.

Enabled	Memory hole supported.
Disabled	Memory hole not supported.

Passive Release: (default setting: "Enabled")

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

Delayed Transaction: (default setting: "Disabled")

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification version 2.1.. The Choice: Enabled, Disabled.

AGP Aperture Size (MB) : (default setting: 64MB)

There is the AGP slot on the board and which allows user to install the AGP display card in the system. The AGP display card will use some of the system memory to store 3D texture mapping data so that the video performance can be increased tremendously. You may use this field to define the memory size which you prefer to use with the AGP card. The memory size selectable in this field can be 4MB to 256MB.

It seems that the default setting –64MB is huge. In fact, what is defined in the BIOS selection is to tell the operation system the maximum memory can be shared by AGP card to store the 3D texture mapping data. So you need not to worry that your system memory will be insufficient. The larger aperture size will let you have the better performance on 3D Video display.

There is the VGART.VXD utility comes with the AGP card and it will decide the actual memory size which will be shared by AGP card. If you are installing the Windows 98 operating system, the feature are already supported by the OS and you can select the memory for the AGP Aperture size.

Auto Detect DIMM/PCI Clk: (default setting : “Enable”)

When “Enabled” is selected, the mainboard will detect the presence of devices on DIMM and PCI slots. When there is no device presented, the clock on the related DIMM and PCI slot will be disabled to reduce the electro magnetic interference (EMI).

Spread Spectrum: (default setting : “Disable”)

When you select “Enabled”, the special feature designed in the system chipset will be triggered and reduce the EMI as mentioned above.

CPU Host Clock (CPU/PCI): (default setting : “Default”)

This selection field is used to decide the CPU FSB clock. Basically, this mainboard is designed by using Intel 440BX AGPset and it supports both the 100MHz and 66MHz FSB frequency. When you select “default” setting, the system BIOS will detect the CPU type and decide the FSB clock automatically. You may also use this field to select different FSB clock and force your CPU to run at higher speed. (be sure to make sure your system devices are fast enough before you can change to such setting)

When you have decided the FSB clock, you will have to use toggle switch (SW) setting to select the CPU clock ratio and decide the CPU speed. please refer to page 3-18 for details of the switch settings..

Beside the "Default" FSB selection, this mainboard also provides the manual option for your choice. You may use the "Page Up" and "Page Down" to select different FSB clock, the FSB selectable in the BIOS are: 66, 75, 83, 100, 103, 112, 105, 110, 115, 120, 124, 133 and 140 MHz.

**Note:**

1. *The higher FSB frequency will surely give you the higher system performance. However, it is not recommended because it may cause the system unstable, especially the component like DRAM, HDD, Add on card is not fast enough.*
2. *Wrong selection of FSB clock may cause the PC system hang up and the system can not boot, In case that it should be happened, use JP9 to clear the CMOS and reset the setting.*

The following events appears only when the hardware monitoring is installed

CPU Warning Temperature : (Valid when W83783S is installed on 29)

The hardware monitoring device – Winbond W83783S is optional on the mainboard. When they are installed on the mainboard, you may use this field (and the fields below) to monitor the healthy status of your PC system. *These selection fields can not be seen unless you have the W83783S installed on the board and you have enable the “Throttle Duty Cycle” in the “Power Management Setup” (see section 4.7)*

There is a CD comes with the mainboard. You will find the hardware monitoring program in the CD. When you have the hardware monitoring software installed in your PC system, it will let you have a bodyguard in your PC system and it will keep monitoring the CPU temperature, Cooling fan speed, system voltage ... etc. Whenever it detects the abnormal condition occurs, it will give you the warning message or slow down the CPU to avoid serious damage to the PC system.

Current CPU1 Temperature: (Valid when W83783S is installed on U2)

You can use this field to monitor the CPU temperature.

Current CPUFAN# Speed: (Valid when W83783S is installed on U2)

You can use this field to monitor the rotating speed of the CPU cooling fans.

Shutdown Temperature: (Valid when W83783S is installed)

The PC system will be shutdown when reach to the given temperature defined in this field so that the CPU can be protected from damage.

4.7 POWER MANAGEMENT SETUP

ROM PCI / ISA BIOS (2A69KXXX)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.

ACPI function	: Disabled	** Reload Global Timer Events **	
Power Management	: User Define	IRQ [3-7 , 9-15], NMI	: Enabled
PM Control by APM	: Yes	Primary IDE 0	: Disabled
Video Off Method	: Blank Screen	Primary IDE 1	: Disabled
Video Off After	: Standby	Secondary IDE 0	: Disabled
MODEM Use IRQ	: 3	Secondary IDE 1	: Disabled
Doze Mode	: Disable	Floppy Disk	: Disabled
Standby Mode	: Disable	Serial Port	: Enabled
Suspend Mode	: Disable	Parallel Port	: Disabled
HDD Power Down	: Disable		
Throttle Duty Cycle	: 62.5%		
PCI/VGA Act- Monitor	: Enabled		
Soft-Off by PWR-BTTN	: Instant – off.	ESC : Quit	??? ? : Select Item
PowerOn by Ring / LAN	: Disabled	F1 : Help	PU/PD/+/- : Modify
Resume by Alarm	: Disabled	F5 : Old Values	(Shift)F2 : Color
		F7 : Load Setup Defaults	

Fig. 4-6 POWER MANAGEMENT SETUP screen.

WARNING : *The selection fields on this screen are provided for the professional technician who can modify the Chipset features to meet some specific requirement. If you do not have the related technical background, do not attempt to make any change except the following items.*

ACPI function : (Default setting: “Disabled”)

When Enabled, the PC system will have the ACPI function. However, if you want to use the ACPI function, you have to use the most updated operation system like Windows 98 at the same time. When installing Windows 98, you will have to give some specific parameter so that the ACPI function will be installed into your PC system.. (please refer to the manual of Windows 98 for the parameters)

When the ACPI function is installed in your PC system successfully, you will find the ACPI function in the power management icon. The PW switch (mentioned in Section 3) defined by the ACPI is different to the BIOS setup and it always has the higher priority than what was defined in the system BIOS.

According to what was defined by the ACPI in Windows 98, the PW switch can be either the "Standby switch" or "shutdown switch". When "Standby switch" is selected, the first click on the PW switch will have the PC system turn into standby mode. If you want to "wake up" the PC system, you will have to use the devices (such as keyboard, mouse .. etc) which is specified in the Windows 98 ACPI function to trigger the PC system so that it will be back to full-on mode. For more detail of ACPI function, please refer to Windows 98 user's manual for more detail information.

Power Management : (Default setting: "User Define")

This category allows you to select the type (or degree) of power saving and is directly related to the following modes:

1. Doze Mode
2. Standby Mode
3. Suspend Mode
4. HDD Power Down

There are four selections for Power Management, three of which have fixed mode settings.

Disable (default)	No power management. Disables all four modes
Min. Power Saving	Minimum power management. Doze Mode = 1 hr. Standby Mode = 1 hr., Suspend Mode = 1 hr., and HDD Power Down = 15 min.
Max. Power Saving	Maximum power management -- ONLY AVAILABLE FOR SL CPU . Doze Mode = 1 min., Standby Mode = 1 min., Suspend Mode = 1 min., and HDD Power Down = 1 min.
User Defined	Allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable.

PM Control APM: (Default setting: "Yes")

When enabled, an Advanced Power Management device will be activated to enhance the Max. Power Saving mode and stop the CPU internal clock.

If the Max. Power Saving is not enabled, this will be preset to *No*.

Video Off Method: (Default setting: Blank screen)

When you are using the Green Monitor with your PC system, there are three modes selectable in this field to save the power energy

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	Initial display power management signaling.

Video Off After: (Default setting: "Standby")

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

N/A	Monitor will remain on during power saving modes.
Suspend	Monitor blanked when the systems enters the Suspend mode.
Standby	Monitor blanked when the system enters Standby mode.
Doze	Monitor blanked when the system enters any power saving mode.

Modem Use IRQ: (Default setting: 3)

This mainboard has the ACPI feature designed on the board and it will “wakeup” automatically when it detects the incoming modem Ring-in signal. Before you can use the Ring-in signal to wakeup your PC system, you have to install the “External” modem to your PC system and tell the PC system which serial port connects to the modem by selecting the IRQ in this field. (officially, COM 1 uses IRQ4, and COM 2 uses IRQ3)

Doze Mode: (Default setting: Disable)

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

Standby Mode: (Default setting: Disable)

When enabled and after the set time of system inactivity, the fixed disk drive and the video would be shut off while all other devices still operate at full speed.

Suspend Mode: (Default setting: Disable)

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

HDD Power Down: (Default setting: Disable)

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

Throttle Duty Cycle: (Default setting: 62.5%)

When there is the Winbond W83783S (U2) installed on the board, the CPU speed will be slowed down (“Throttling Speed”) when the W83783S detects over heating on the CPU. Slowing down the CPU speed will be the best way to cool down the CPU temperature and it will protect the CPU from damaged. Use this option to select the “Throttling Speed” to protect your CPU when over heating.

PCI/VGA Act - Monitor: (Default setting: Enabled)

When CPU enters the Green mode, the system will keep scanning the status of the monitor. You may use this field to select whether you are going to have the monitor get into Green mode or not:

Enable: The screen display will not be off (or powered off) when there is the video signal sending from VGA card to monitor.

Disable: The screen display will be blank off (or powered off) no matter whether there is the video signal sending from VGA card to monitor or not.

Soft-Off by PWR-BTTN : (Default setting: “Instant-off.”)

This field allows user to define the feature of the “PW” connector (it is used to connect the power button). The setting can be either “Delay 4 Sec.” or “Instant-Off”. Please refer to page 3-12 for details of function description.

PowerOn by Ring / LAN : (Default setting: “Disabled”.)

When “Enabled”, you can resume the system from Sleep or Suspend mode by using a MODEM Ring-in or a LAN signal. In order to make this feature works normally, there are some requirement need to be noticed, please see Section 2 for details.

Resume by Alarm : (Default setting : “Disabled”)

When “Enabled”, the following two selection fields - “Date (of Month) Alarm” and “Time (hh:mm:ss) Alarm” will appear on the screen. You can use these two fields to set the date and time which you want to resume the system from Sleep or Suspend mode. The “Time” must be set in a 24-hour format. (for more detail information, please refer to Section 2).

****** Reload Global Timer Events ******

When "Enabled", an event occurring on each device listed below restarts the global time for Standby mode.

IRQ[3 -7, 9-15], NMI

Primary IDE 0

Primary IDE 1

Secondary IDE 0

Secondary IDE 1

Floppy Disk

Serial Port

Parallel Port

4.8 PNP/PCI CONFIGURATION

ROM PCI / ISA BIOS (2A69KXXX)
 PNP/PCI CONFIGURATION
 AWARD SOFTWARE, INC.

PNP OS Installed	: No	Assign IRQ for VGA	: Disabled
Resources Controlled By	: Manual	Used MEM base addr	: N/A
Reset Configuration Data	: Disabled	Assign IRQ for USB	: Enabled
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		
DMA-0 assigned to	: PCI/ISA PnP		
DMA-1 assigned to	: PCI/ISA PnP	ESC : Quit	??? ? : Select Item
DMA-3 assigned to	: PCI/ISA PnP	F1 : Help	PU/PD/+/- : Modify
DMA-5 assigned to	: PCI/ISA PnP	F5 : Old Values	(Shift)F2 : Color
DMA-6 assigned to	: PCI/ISA PnP	F7 : Load Setup Defaults	
DMA-7 assigned to	: PCI/ISA PnP		

Fig. 4-8 PNP/PCI CONFIGURATION setup screen.

WARNING : *The selection fields on this screen are provided for the professional technician who can modify the Chipset features to meet some specific requirement. If you do not have the related technical background, do not attempt to make any change.*

PNP OS Installed : (Default setting is “No”)

The setting in this field tells the system BIOS whether your operating system (OS) is a PnP OS (such as Windows® 95 and Windows® 98) or not. The PnP OS will use the system resources record stored in the ESCD segment to arrange the system environment..

Resources Controlled by : (Default setting: Manual)

Manual : The system BIOS will not refer to the ESCD data to assign IRQ & DMA. Instead, it will refer to the information recorded in this field when Assigning the IRQ & DMA resource. (the system BIOS will always refer to the ESCE data to assign the I/O and memory space resources).

Auto : The system BIOS will refer to the ESCD segment for all legacy information.

Reset Configuration Data :

Disabled : The system BIOS will do nothing.

Enabled : The system BIOS will clear (reset) the ESCD data during "POST". After clearing the ESCD data, the system BIOS will then change this item's value back to "Disabled", otherwise, the ESCD data will become useless.

IRQ# / DMA# assigned to :

There are only 15 IRQs and 8 DMAs available on the mainboard and most of them are assigned for some specific purposes. Sometimes, user may feel like to have some more IRQ and DMA in order to install the new add on cards. In this case, you may use this field to assign some of the IRQ and DMA to "PCI/ISA PnP" so that the new add on card will find the free IRQ or DMA available for it.

Legacy ISA : The system BIOS will skip and never assign the specified IRQ/DMA resource to PCI or ISA PnP devices and the IRQ and DMA can only be used by their specified Legacy ISA cards.

PCI/ISA PnP : When "PCI/ISA PnP" is selected, the related IRQ and DMA will be released and they can be used by other PCI or ISA devices. Whenever there is the new PCI or ISA devices plugged onto the mainboard, system BIOS will detect it and assign a free IRQ or DMA for the new devices.

.Note: Most IRQ and DMA have its own purpose and they can not be assigned to "PCI/ISA PnP". For example, IRQ14 and IRQ15 is used by the onboard IDE device. If you change the setting on IRQ14 and IRQ15, you will be unable to connect the hard disk drive or CD ROM drive to the IDE interface on the mainboard. So please make sure to check the IRQ and DMA arrangement in your system before you proceed to do the setting. For instance, if you do not have the printer (IRQ7) or PS/2™ mouse (IRQ12) connected to your PC system, you may assign IRQ7 and IRQ12 to "PCI/ISA PnP" so that you can have more IRQs available for new add on cards.

1.

Used MEM base addr and Used MEM Length :

These fields are used for some special ISA legacy cards which will request memory space below 1M address. Please refer to the user's manual of your add on card to find whether it will need such memory space. If your add on card does need to have such memory space, please point out the memory address and its length of the legacy area in this field. According to what is recorded in this field, BIOS will skip the UMB area that is used by the legacy device to avoid the memory conflicting.

Note : No matter what is defined in the "Resources Controlled By" field ("Manual" or "Auto"), the system BIOS will always assign IRQ resources to PCI devices from the highest one first (ie. IRQ15, 14, 13 ...) while assign IRQ resources to ISA PnP devices from the lowest one first (ie. IRQ3,4,5 ..).

Assign IRQ For VGA/USB

The system's IRQ signals are limited and sometimes you may feel like to some more IRQ signals for your add-on cards. The system BIOS allows you to disable the IRQ which is supposed to be connected to VGA and USB ports. When you have choose to disable the IRQ on VGA or USB port, the IRQ on the related IRQ will be released and becomes available for other devices.

Before you decide to proceed with the change, please make sure that you do not have USB and VGA adapter which will use the IRQ signal. Otherwise, your PC system will become abnormal and the devices connected to these ports may not be working at all.

It is very simple to tell the difference. If you are going to disable the IRQ on the USB port, check whether is any device connected to the USB port. If you can not find any device, you may feel free to disable the IRQ on the USB port and have the IRQ used by other device.

As for VGA adapter, it will be a little difficult. You may try to find whether your VGA card requires the IRQ signal or not. If you can not find the information from the user's manual of your VGA card. You may use the following information to make your choice:

1. Most VGA cards do not need to have the IRQ signal.
2. If you can not find the feature connector on your VGA card, than it is quite possible that your VGA card does not need the IRQ signal.
3. If your VGA card has the feature connector on the VGA card but it has nothing connected to it. In this case, you still may have the IRQ disabled.
4. If you have another add on card like video capture card which is connected to the feature connector on the VGA card, In this case, you can not disable the IRQ signal because the IRQ signal will be connected to the video capture card.

4.9 INTEGRATED PERIPHERALS

ROM PCI / ISA BIOS (2A69KXXX)
 INTEGRATED PERIPHERALS
 AWARD SOFTWARE, INC.

IDE HDD Block Mode	: Enabled	Onboard Serial Port 2	: 2F8/IRQ3
IDE Primary Master PIO	: Auto	UART Mode Select	: Normal
IDE Primary Slave PIO	: Auto		
IDE Secondary Master PIO	: Auto		
IDE Secondary Slave PIO	: Auto		
IDE Primary Master UDMA	: Auto	Onboard Parallel Port	: 378/IRQ7
IDE Primary Slave UDMA	: Auto	Parallel Port Mode	: SPP
IDE Secondary Master UDMA	: Auto		
IDE Secondary Slave UDMA	: Auto		
On-Chip Primary PCI IDE	: Enabled		
On-Chip Secondary PCI IDE	: Enabled		
USB Keyboard Controller	: Disabled		
Init AGP Display First	: Disabled		
POWER ON Function	: BUTTON ONLY		
		ESC : Quit	??? ? : Select Item
		F1 : Help	PU/PD/+/- : Modify
		F5 : Old Values	(Shift)F2 : Color
		F7 : Load Setup Defaults	
KBC input clock	: 8MHz		
Onboard FDC Controller	: Enabled		
Onboard Serial Port 1	: 3F8 IRQ4		

Fig. 4-7 INTEGRATED PERIPHERALS setup screen.

WARNING: The selection fields on this screen are provided for the professional technician who can modify the Chipset features to meet some specific requirement. If you do not have the related technical background, don't attempt to make any change except the following items.

You may use the selection options on this screen to enable or disable some of the onboard interfaces like IDE, FDC and USB. You can also change the IDE ports to PIO Mode 0, mode 1, mode 2 or mode 4. The default setting is "auto", It is the recommended setting to users because it will decide the transfer protocol and let your PC system has the best performance.

IDE HDD Block Mode: (Default setting : "Enabled")

This selection allows your hard disk controller to use the fast block mode to transfer data to and from your hard disk drive (HDD).

Enabled	IDE controller uses block mode.
Disabled	IDE controller uses standard mode.

IDE Primary/Secondary Master/Slave PIO: (Default setting : “Auto”)

The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.

IDE Primary/Secondary Master/Slave UDMA: (Default setting : “Auto”)

ATA/33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software both support ATA/33, select Auto to enable BIOS support.

The Choice: Auto, Disabled

On-Chip Primary/Secondary PCI IDE: (Default setting : “Enabled”)

The integrated peripheral controller contains an IDE interface with support for two IDE channels. Select Enabled to activate each channel separately.

Init AGP Display First: (Default setting : PCI slot)

When you have both the AGP and PCI VGA card installed in the system, you can use this field to decide the display priority.

AGP: the display will be active on the AGP adapter.

PCI slot: The display will be active on the PCI VGA adapter

POWER ON Function: (Default setting : "BUTTON ONLY")

The Power ON function allows you to select different way to power on your PC system. Please note that you will be unable to use the power button (PW switch) to power on your PC system if "Password" is selected in this field.

USB Keyboard Support: (Default setting : “Disabled”)

Select "Enabled" in this field will allow operation system to use the USB keyboard. If there is no USB keyboard connected to the PC system, leave it "Disabled".

Onboard FDD Controller: (Default setting : “Enabled”)

This should be enabled if your system has a floppy disk drive (FDD) installed on the system board and you wish to use it. Even when so equipped, if you add a higher performance controller, you will need to disable this feature.

The Choice: Enabled, Disabled

Onboard Serial Port 1/Port 2: (Default setting : “3F8/IRQ4, 2F8/IRQ3”)

This item allows you to determine access onboard serial port 1/port 2 controller with which I/O address.

The Choice: 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, Auto.

UART 2 Mode: (Default setting : “Standard”)

This item allows you to determine which Infra Red (IR) function of onboard I/O chip.

The Choice: Standard, ASKIR, HPSIR

Onboard Parallel Port: (Default setting : “378/IRQ7”)

Select a logical LPT port name and matching address for the physical parallel (printer) port.

The choice: 378H/IRQ7, 278H/IRQ5, 3BCH/IRQ7, Disabled

Parallel Port Mode: (Default setting : “SPP”)

Select an operating mode for the onboard parallel port. Select Compatible or Extended unless you are certain both your hardware and software support EPP or ECP mode.

The choice: ECP/EPP, ECP, EPP/SPP, SPP,.

4.10 LOAD SETUP DEFAULTS

ROM PCI / ISA BIOS (2A69KXXX)
 CMOS SETUP UTILITY
 AWARD SOFTWARE, INC.

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

If you lost the CMOS data or you don't know how to complete the setup procedure, you may use this option to load the SETUP default values from the BIOS default table. It is easy to load the default value, simply highlight the "LOAD SETUP DEFAULTS" field and then press the "Enter" key, when you see the "LOAD SETUP DEFAULTS (Y/N)" displayed on the screen, response to it with "Y" and then press the "Enter" key. the SETUP default values will be loaded. Basically, the SETUP default settings are the best-case values that will optimize system stability.

In case that the CMOS data is corrupted, the SETUP DEFAULTS settings will be loaded automatically when you press the "Del" key and enter the main setup screen. So you may select "SAVE & EXIT SETUP" to leave setup program and the system is loaded with the default settings.

4.11 SUPERVISOR PASSWORD

ROM PCI / ISA BIOS (2A69KXXX)
 CMOS SETUP UTILITY
 AWARD SOFTWARE, INC.

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

The password entry in this field is different to the "Power On Function" mentioned in Section 2-2 and Section 4-9. Those password settings are used to power on your PC system, However, the "SUPERVISOR PASSWORD" will be used to check the authority when power-on the PC system. The Supervisor Password will have different function according to the "Security Option" setup in Section 4.5:

When "Setup" is selected in Security Option:

If you want to change the BIOS setting, you will have to key-in the Supervisor Password so that you can start the BIOS setup program and change the system setting..

When "System" is selected in Security Option:

When turn on the PC system, it will request you to enter the Password. Without the correct password, the PC system will stop and the operation system will not be loaded.

4.12 USER PASSWORD

ROM PCI / ISA BIOS (2A69KXXX)
 CMOS SETUP UTILITY
 AWARD SOFTWARE, INC.

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

The User Password can be used to check the user's authority. However, this password entry is somewhat different to the "SUPERVISOR PASSWORD" mentioned in previous page. The User Password will have different function according to the "Supervisor Password" and the "Security Option" setup in Section 4.5:

A. When there is the password stored in the "SUPERVISOR PASSWORD"

1. When "Setup" is selected in Security Option:

Users can use the "User Password" to log into the BIOS setup program, but they can only select "User Password", "SAVE & EXIT SETUP" and "EXIT WITHOUT SAVING". (Use the Supervisor Password to log into the PC system, you will have the complete right to change all settings in the BIOS setup program)

2. When "System" is selected in Security Option:

When turn on the PC system, it will request you to enter the Password. Without the correct password, the PC system will stop and the operation system will not be loaded.

B. When there is no password stored in the "SUPERVISOR PASSWORD"**1. When "Setup" is selected in Security Option:**

Users can use the "User Password" to log into the BIOS setup program, and they can make all the change in the BIOS setup program.

2. When "System" is selected in Security Option:

When turn on the PC system, it will request you to enter the Password. Without the correct password, the PC system will stop and the operation system will not be loaded.

4.13 IDE HDD AUTO DETECTION

ROM PCI/ISA BIOS (2A69KXXX)
 CMOS SETUP UTILITY
 AWARD SOFTWARE, INC.

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

There are so many different types of Hard Disk Drive (HDD) in the market and your PC system will not know the HDD type unless you tell it the HDD type. In order to make your PC system know the IDE HDD type, you have to tell the system what kind of HDD is connected to the mainboard by giving a set of HDD parameters. Sometimes it is not easy for users to find the proper parameters for their IDE HDD. In order to help users to find the parameters, the system BIOS provides a convent way – the auto detection of IDE HDD.

To run the auto detection program is extremely easy. Move the selection bar to “IDE HDD AUTO DETECTION” and then press “Enter”, the system BIOS take over the job and try to detect the type of IDE HDD. If it succeeds, you will see a list of hard disk with its related parameters displayed on the screen. You may press on the “Y” key to confirm the HDD type (or select one of the hard disk type listed on the screen). The system BIOS will "read" the parameters into the CMOS memory and you have completed the IDE HDD setup.

4.14 SAVE & EXIT SETUP

ROM PCI / ISA BIOS (2A69KXXX)
 CMOS SETUP UTILITY
 AWARD SOFTWARE, INC.

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

This option will save all setup values to CMOS RAM & EXIT SETUP routine, by moving the selection bar to “SAVE & EXIT SETUP” and pressing “Enter” key, then types “Y” and “Enter” key, the values will be saved and all the information will be stored in the CMOS memory, and then the setup program will be terminated and the system will start to reboot.

4.15 EXIT WITHOUT SAVING

ROM PCI / ISA BIOS (2A69KXXX)
 CMOS SETUP UTILITY
 AWARD SOFTWARE, INC.

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

This item exit the setup routine without saving any changed values to CMOS RAM, When you do not want to save your change to the CMOS memory, you may choose to run this option and the setting what you made in the BIOS setup routine will be given away.

Move the selection bar to “EXIT WITHOUT SAVING” and click on the “Enter” key, then you will be asked to confirm the action to exit, press the “Y” and “Enter” key, the setup program will be terminated and the system will start to reboot.