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Chapter 1

Features of This Motherboard

The **J-5TXB** is designed for the PC user who wants a great many features in a small package. This motherboard:

1. **Easy Installation:** Is equipped with BIOS supports auto detection of hard drives and plug and play to make setup of hard drives and expansion cards virtually automatic.
2. **Intel chipset:** Intel's 430TX PCiset with I/O subsystems.
3. **Multi-Speed Support:** Support one of 75~300MHz Pentium CPU on a ZIF Socket 7.
4. **One Jumper:** Only one jumper selector for CPU External Clock Frequency and Bus/Core Ratio selected, it is easy for user to install CPU.
5. **L2 Cache:** Provides on board 256KB or on board 512KB Pipelined Burst SRAM.
6. **DRAM Memory Support:** Supports 72-pin SIMMs of 4MB, 8MB, 16MB, 32MB, or 64MB to from a memory size between 8MB to 192MB. Support both Fast Page Mode and Extended Data Output (EDO) SIMMs.
7. **ISA and PCI Expansion Slots:** Provides three 16-bit ISA slots, four 32-bit PCI slots.
8. **Super Multi-I/O:** Provides two high-Speed UART compatible serial ports and one parallel port with EPP and ECP capabilities. UART2 can also be directed to the Infrared Module for wireless connections. Two floppy drives of either 5.25" or 3.5" (1.44MB or 2.88MB) are also supported without an external card.
9. **PCI Bus Master IDE Controller and ULTRA DMA 33:** On-board PCI Bus Master IDE controller with two connectors that supports four IDE devices in two channels, provides faster data transfer rates, and supports Enhanced IDE devices such as Tape Backup CD-ROM drives and LS-120. This controller supports PIO Modes 3 and 4 and Bus Master IDE DMA 33MHz.
10. **Optional IrDA and PS/2:** This motherboard supports an optional infrared port module for wireless interface and PS/2 mouse cable set.
11. **Power Button:** Press the button will place the system power off .
12. **RTC Power On:** When Enabled RTC Power On controller, you can setting RTC alarm to power on system at the time you setting.
13. **Optional USB Port Connector:** This motherboard supports two USB port connectors for USB devices.
14. **Power Support:** Efficient PWM switching power instead of traditional Linear Voltage Regulator to prevent power component from being burned-out.
15. **Baby AT Form Factor:** Dimensions 22cm x 25cm.
16. **Fan stop automatically during stand-by mode:** In mode of stand-by the fan stop running to decrease noise and consumption of electricity.

Chapter 2

Installation

2-1 Map of the Motherboard

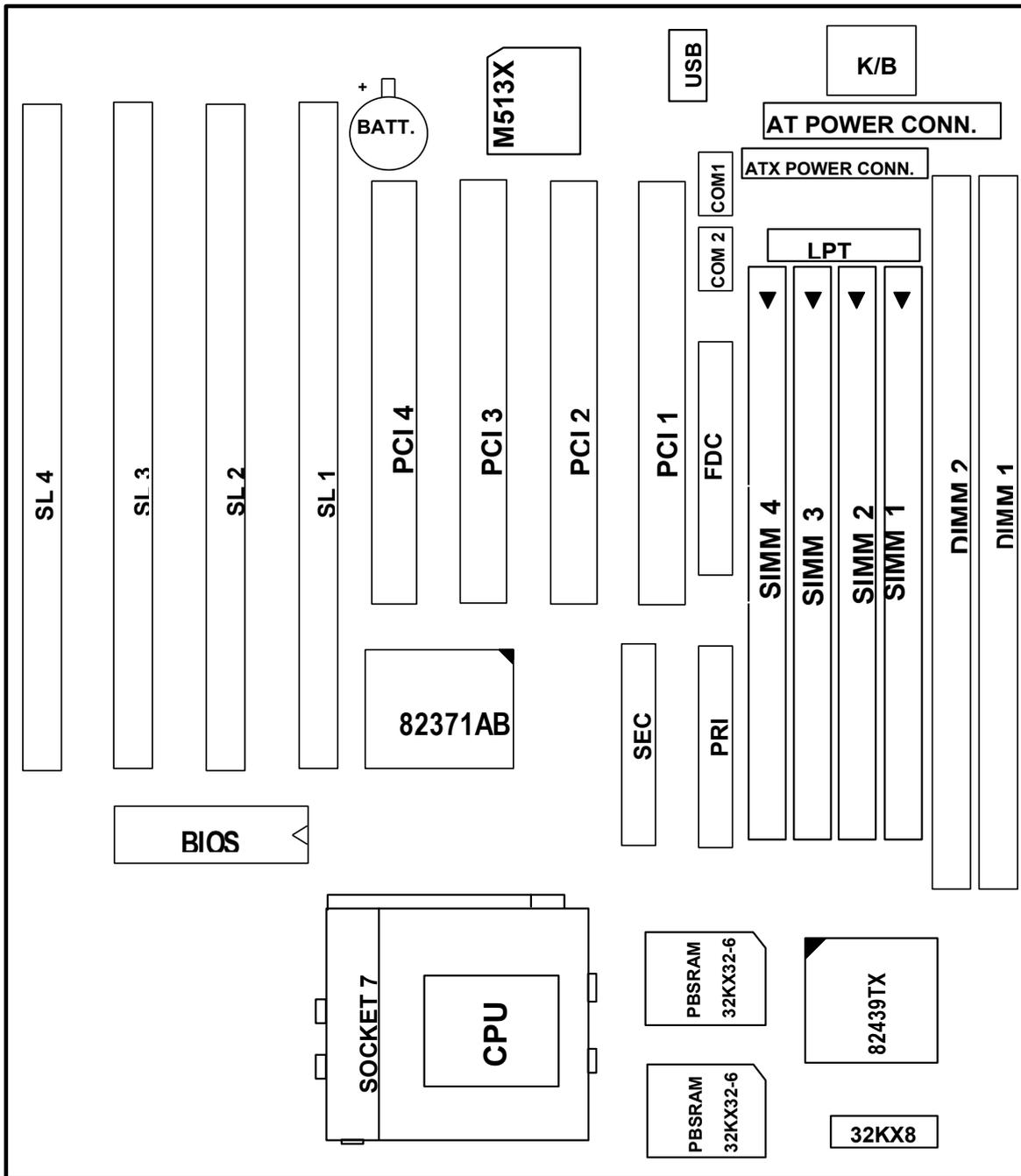


Figure 2-1

Jumpers

- | | | | |
|----|-----|------|--|
| 1. | JP3 | p. 4 | Flash ROM voltage Setting (Yellow color selector) |
| 2. | JP7 | p. 4 | CPU I/O Voltage Selection (Yellow color selector) |
| 3. | Jp6 | p. 5 | One Jumper Selection for CPU Type (Blue color selector) |
| 1. | JP4 | p. 6 | CMOS RAM (Normal/Clear CMOS Data) (Yellow color selector) |
| 2. | JP5 | P.6 | P54C/P55C CUP Selection |

Connectors

- | | | | |
|-----|---------------------|-------|---|
| 1. | J2 | p. 10 | Power connector (12-pins Block)/ATX Power connector (20~pins Block) |
| 2. | J5 | p. 11 | Keyboard connector (5-pins Female) |
| 3. | J1 | p. 11 | PS/2 Mouse connector (6-pins Block) |
| 4. | LPT1(J10) | p. 12 | Parallel Port connector (26-pins Block) |
| 5. | COM1(J7)/COM2(J6) | p. 12 | Serial Port COMA & COMB (10-pins Block) |
| 6. | FDC(J4) | p. 13 | Floppy Driver connector (34-pins Block) |
| 7. | IDE0(J9) | p. 13 | Primary IDE connector (40-pins Block) |
| 8. | IDE1(J11) | p. 13 | Secondary IDE connector (40-pins Block) |
| 9. | SMI | p. 14 | SMI suspend Switch lead (2-pins) |
| 10. | TBLED | p. 14 | Turbo LED switch (3-pins) |
| 11. | RST | p. 15 | Reset Switch lead (2-pins) |
| 12. | KEYLOCK | p. 15 | Keyboard Lock Switch (5-pins) |
| 13. | SPEAKER | p. 15 | Speaker connector (4-pins) |
| 14. | HDLED | p. 15 | IDE activity LED connector (2-pins) |
| 15. | IR(J16) | p. 16 | Infrared Module connector (4-pins) |
| 16. | USB0(J17)/USB1(J18) | p. 16 | USB Port connectors |

Expansion Slots

- | | | | |
|----|--------------|------|--|
| 1. | SIMM Slots | p. 7 | DRAM Memory Expansion slots |
| 2. | DIMM Slots | p. 7 | DRAM Memory Expansion slots |
| 3. | ZIF Socket 7 | p. 8 | Socket for Central Processing Unit (CPU) |
| 4. | ISA 1,2,3 | p. 9 | 16-bit ISA Bus Expansion slots |
| 5. | PCI 1,2,3,4 | p. 9 | 32-bit PCI Bus Expansion slots |

2-2 Installation Steps

Before using your computer, you must follow the steps as follows:

-
1. Set Jumpers on the Motherboard
 2. Install the CPU
 3. Install DRAM Modules
 4. Install Expansion card
 5. Connect Cables, Wires, and Power Supply
 6. Setup the BIOS Software

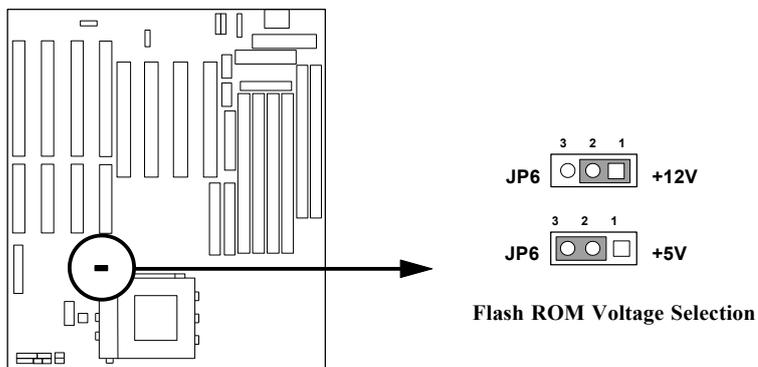
2-2-1 Jumper Settings

1. Flash ROM Voltage Selection: JP6 (Yellow color selector)

These jumpers set the voltage supplied to the Flash ROM. It depend on Flash ROM Brand.

Programming JP6

+12V	1-2	(Intel, MXIC)
+5V	2-3	(SST, Winbond)



1. CPU I/O Voltage Selection: JP1 (Yellow color selector)

Selections 1-2 3-4-5-6-6-7 9-10 11-12

2.8Vshor^topenopenopenopenopen

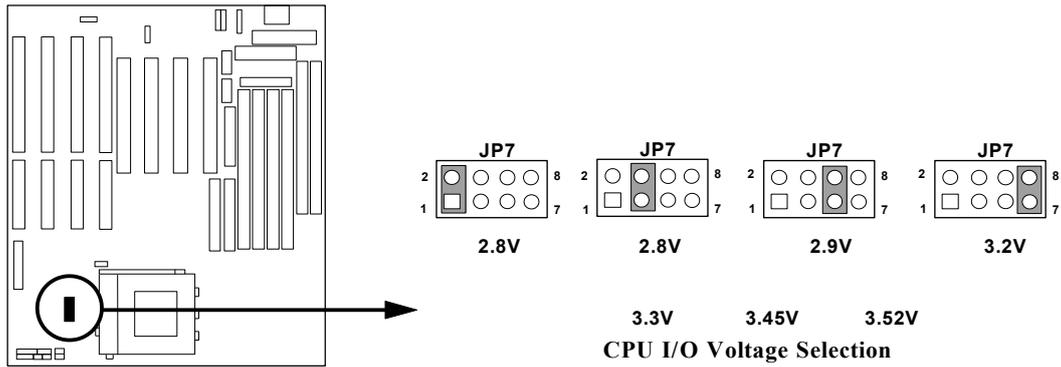
2.9Vopen^tshortopenopenopenopen

3.2Vopenopen^tshortopenopenopen

3.3Vopenopenopen^tshortopenopen

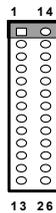
3.45V open open open open short open

3.52V open open open open short

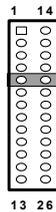


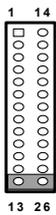
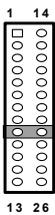
1. One Jumper Selection for CPU Type: JP6 (Blue color selector)

CPU TYPE J19 Intel P54C-90MHz



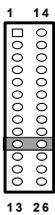
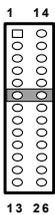
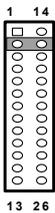
Intel P54C-150MHz





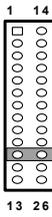
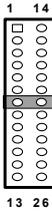
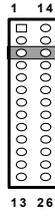
IntelP54C-100MHz

IntelP55-233MHZ

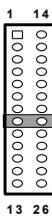
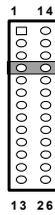


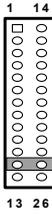
IntelP54C-100MHz

IntelP54C-200MHz
IntelP55C-200MHz
AMD K6 PR2-200



IntelP54C-133MHz





Intel P54C-90MHz1&14 short

Intel P54C-100MHz

Intel P55C-233MHz2&15 short

Intel P54C-120MHz3&16 short

Intel P54C-133MHz4&17 short

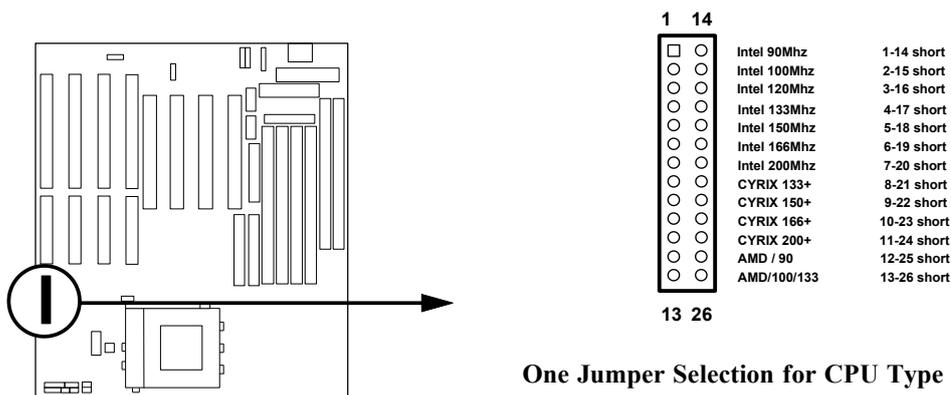
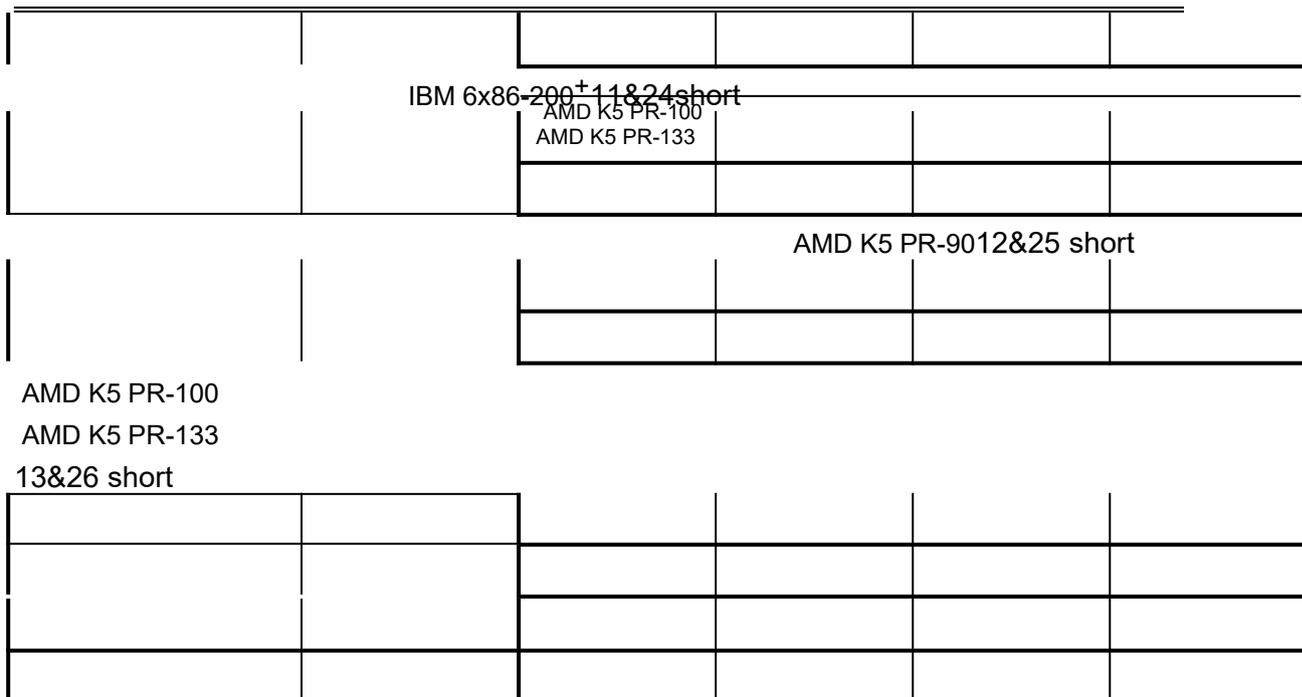
Intel P54C-150MHz5&18 short

Intel P54C-166MHz

		Intel P54C-166MHz		Cyrix 6x86-133 ⁺
		Intel P55C-166MHz		IBM 6x86-133 ⁺
		AMD K5 PR1-166		
		AMD K6 PR2-166		

Intel P55C-166MHz

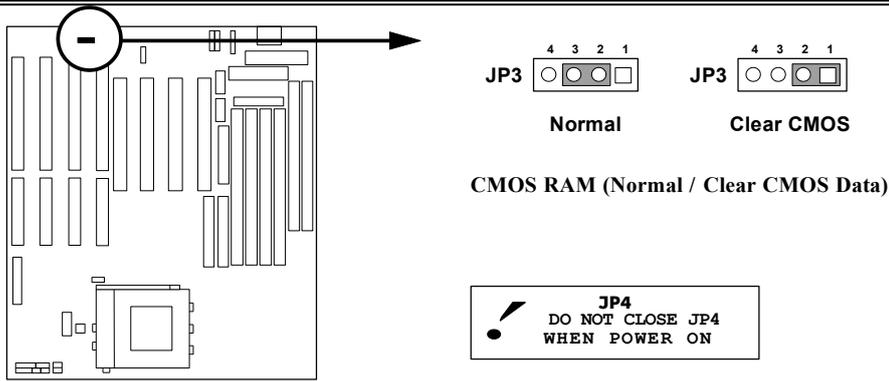
					AMD K5 PR1-1666&19 short
AMD K6 PR2-166					
Intel P54C-200MHz					
					Intel P55C-200MHz7&20 short
AMD K6 PR2-200					
Cyrix 6x86-133 ⁺					AMD K5 PR-90
		Cyrix6x86-150 ⁺ IBMx6x86-150 ⁺	Cyrix 6x86-166 ⁺ BM 6x86-166 ⁺	IBM 6x86-133 ⁺ 8&21 short Cyrix 6x86-200 ⁺ IBM 6x86-200 ⁺	
Cyrix 6x86-150 ⁺					
IBM 6x86-150 ⁺ 9&22 short					
Cyrix 6x86-166 ⁺					
					IBM 6x86-166 ⁺ 10&23short
Cyrix 6x86-200 ⁺					



1. CMOS RAM: JP4 (Yellow color selector)

This clears the user-entered information stored in the CMOS RAM chip such as hard disk information and passwords. Simply connect a jumper cap over this jumper for a few seconds then remove. But make sure that your computer is turned off. You must enter the BIOS setup (by holding down during power-up) after this is done to re-enter BIOS information (see BIOS SETUP)

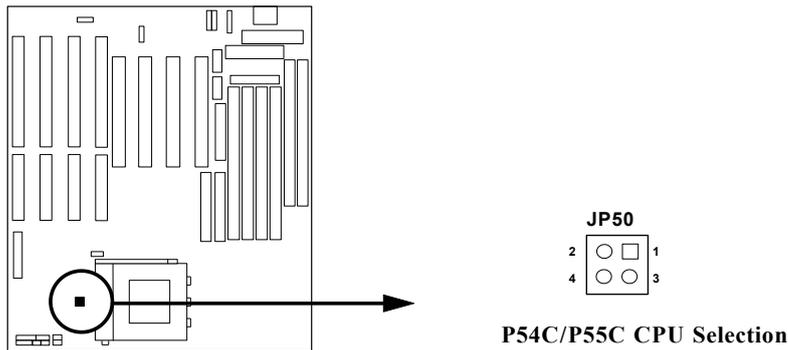
Selections	JP4
Normal	2-3 (Default)
Clear CMOS	3-4 (momentarily)



1. P54C/P55C CPU: JP5 (Yellow color selector)

For some Single regulator of P54C CPU you may need set this jumper to "short".

<u>Selections</u>	<u>JP50</u>
P54C	short
P55C	open



2-2-2 System Memory (DRAM)

This motherboard supports four 72-pin SIMMs of 4MB, 8MB, 16MB, 32MB, or 64MB to from a memory size between 8MB to 256MB. The DRAM can be either 60ns or 70ns Fast Page Mode or EDO RAM. This motherboard also support two 168-pin DIMM Module, it can use only +3V unbuffer synchronous DRAM.

Install two memory modules each time as shown in the chart below.

BANK0				BANK1				Total Memory
SIMM 4	SIMM 3	SIMM 2	SIMM 1	SIMM 4	SIMM 3	SIMM 2	SIMM 1	
Combination								

			4MB 4MB	None	None 8MB
			4MB 4MB	8MB	8MB 24MB
			4MB 4MB	16MB	16MB 40MB
			4MB 4MB	32MB	32MB 72MB
			4MB 4MB	64MB	64MB 136MB
			8MB 8MB	None	None 16MB
			8MB 8MB	4MB	4MB 24MB
			8MB 8MB	8MB	8MB 32MB
			8MB 8MB	16MB	16MB 48MB
			8MB 8MB	32MB	32MB 80MB
			8MB 8MB	64MB	64MB 144MB
			16MB 16MB	None	None 32MB
			16MB 16MB	16MB	16MB 64MB

			16MB 16MB 32MB 32MB 96MB	
			16MB 16MB 64MB 64MB 160MB	
			32MB 32MB None None 64MB	
			32MB 32MB 32MB 32MB 128MB	
			32MB 32MB 64MB 64MB 192MB	
			64MB 64MB None None 128MB	
			64MB 64MB 64MB 64MB 256MB	

DIMM1 DIMM2 Total Memory Combination

		16MB 16MB 32MB
		16MB 32MB 48MB
		32MB 32MB 64MB

DIMM: BANK0, DIMM2: BANK1

* *We don't recommend use FAST PAGE/EDO Module with DIMM combination.*

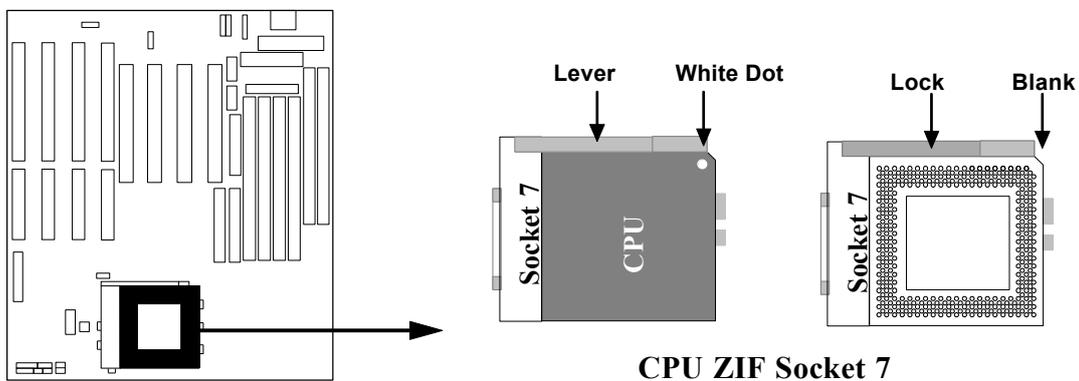
2-3 Central Processing Unit (CPU)

The motherboard provides a 321-pins ZIF Socket 7. The CPU on mother board must have a fan attached to prevent overheating.

WARNING: *Without a fan, the CPU will overheat and cause damage to both the CPU and the motherboard.*

To install a CPU, first turn off your system and remove its cover. Locate the ZIF socket and open it by first pulling the lever sideways away from the socket then upwards to a 90-degree right angle. Insert the CPU with the white dot as your guide. The white dot should point towards the end of the level. The CPU has a corner pin for three of the four corners, the CPU will only fit in the one orientation as shown as follow. With the added weight of the CPU fan, no force is required to insert the CPU. Once completely inserted, hold down on the fan and close the socket's lever.

IMPORTANT: *You must set jumpers J19 "CPU One Jumper Setting" on and jumper JP1 "CPU I/O Voltage Selection" on [page 4](#) depending on the CPU that you install.*



2-4 Expansion Cards

First read your expansion card documentation on any hardware and software settings that may be required to setup your specific card.

Installation Procedure:

1. Read the documentation for your expansion card.
2. Set any necessary jumpers on your expansion card.
3. Remove your computer's cover.
4. Remove the bracket on the slot you intend to use.
5. Carefully align the card's connectors and press firmly.

-
-
6. Secure the card on the slot with the screw you remove in step 4.
 7. Replace the computer's cover.
 8. Setup the BIOS if necessary.
 9. Install the necessary software drivers for your expansion card.

Assigning IRQs for Expansion Cards

Some expansion cards may require an IRQ to operate. Generally an IRQ must be exclusively assigned to only one device. In a standard design there are 16 IRQs available but most of them are occupied by the system and leaves 6 free for expansion cards.

Either ISA or PCI expansion cards may require an IRQs. System IRQs are available to cards installed in the ISA expansion first, and any remaining IRQs can be used by PCI cards. Currently, there are two types of ISA cards. An original ISA expansion card design, known as "Legacy" ISA cards, they request configuration of the card's jumpers manually and then install it in any available slot on the ISA bus, and other known as Plug and Play. You may use Microsoft's Diagnostic (MSD.EXE) utility included in the DOS directory to see a map of your used and any free IRQs. For Windows 95 users, the "Control Panel" icon in "My Computer", contains a "System" icon which gives you "Device Manager" tab. Double clicking on a specific device gives you "Resources" tab which shows the Interrupt number and address. Make sure that no two devices use the same IRQs, or your computer will experience problems when those two devices are in use at the same time.

To simplify this process the motherboard has complied with the Plug and Play (PNP) specification which was developed to allow automatic system configuration whenever a PNP-compliant card is added to the system. For PNP cards, IRQs are assigned automatically from those available.

If the system has both Legacy and PNP ISA cards installed, IRQs are assigned to PNP cards from those not used by Legacy cards. The PCI and PNP configuration of the BIOS setup utility can be used to indicate which IRQs are being used by Legacy cards. For older Legacy cards that do not work with the BIOS, you can contact your vendor for an ISA Configuration Utility.

An IRQ number is automatically assigned to PCI expansion cards after those used by Legacy and PNP ISA cards. In the PCI bus design, the BIOS automatically assigns an IRQ to a PCI. To install a PCI card, you need to set something called the INT (interrupt) assignment. Since all the PCI slots on this motherboard use an INTA #, be sure that the jumpers on your PCI cards are set to INT A.

Assigning DMA Channels for ISA Cards

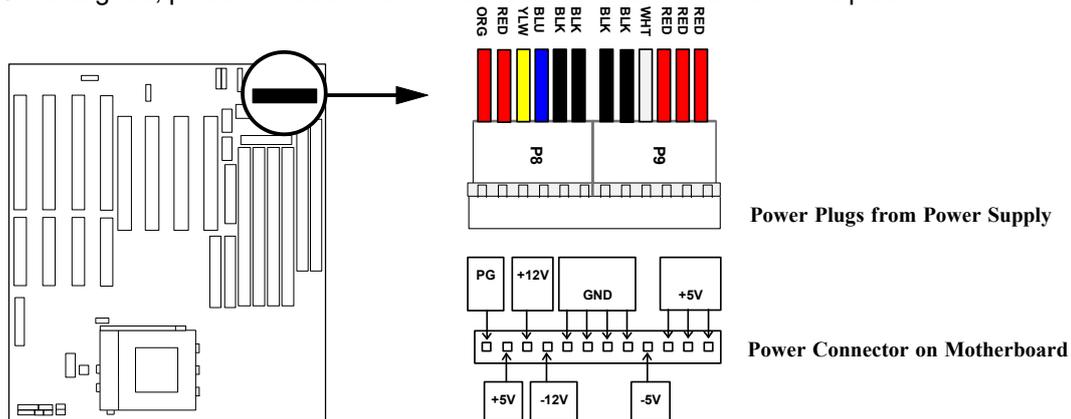
Some ISA cards, both Legacy and PNP may also need to use a DMA (Direct Memory Access) channel. DMA assignments for this motherboard are handled the same way as the IRQ assignment process described above. You can select a DMA channel in the PCI and PNP configuration section of the BIOS Setup utility. In the BIOS setup, you should choose "Yes" for those IRQ's and DMA's you wish to reserve for Legacy cards.

2-5 External Connectors

1. Power connector: AT Power Connector (12-pins block): JP4

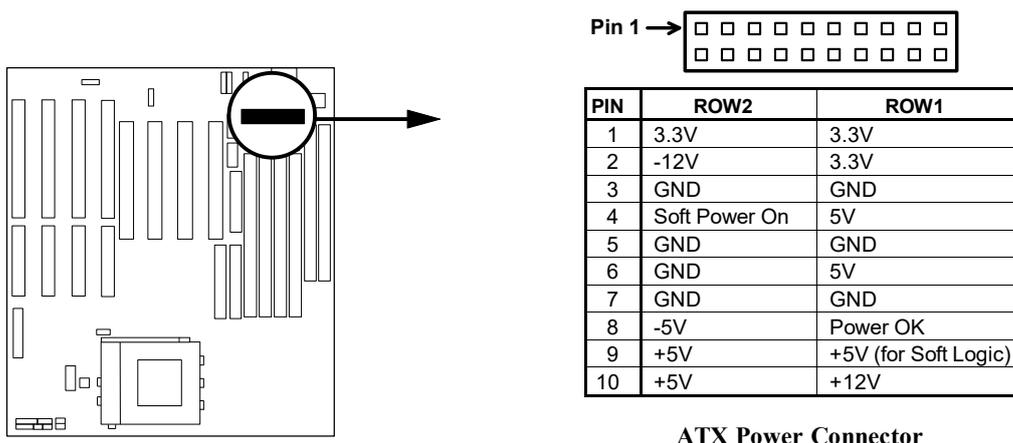
This connector connects to a standard 5 Volt power supply. To connect the leads from the power supply, ensure first that the power supply is not plugged. Most power supplies provide two plugs (P8 and P9), each containing six wires, two of which are black. Orient the connectors so that the black wires are located in the middle.

Using a slight angle, align the plastic guide pins on the lead to their receptacles on the connector. Once aligned, press the lead onto the connector until the lead locks into place.



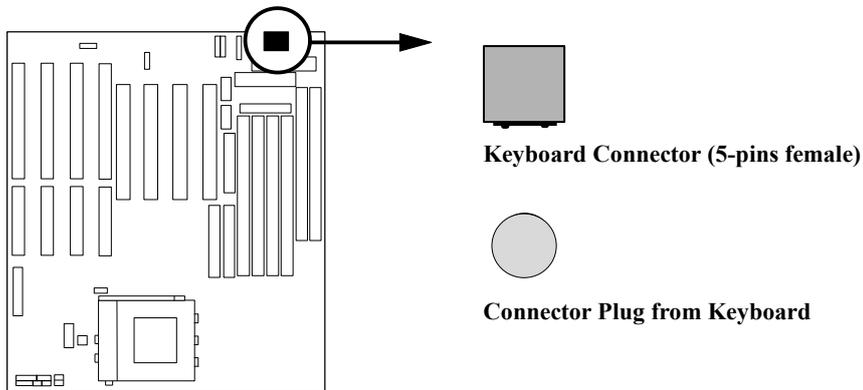
1. Power Connector: ATX Power Connector (20-pins block): J7

ATX Power Supply connector. This is a new defined 20-pins connector that usually comes with ATX case. The ATX Power Supply allows to use soft power on momentary switch that connect from the front panel switch to 2-pins Power On jumper pole on the motherboard. When the power switch on the back of the ATX power supply turned on, the full power will not come into the system board until the front panel switch is momentarily pressed. Press this switch again will turn off the power to the system board.



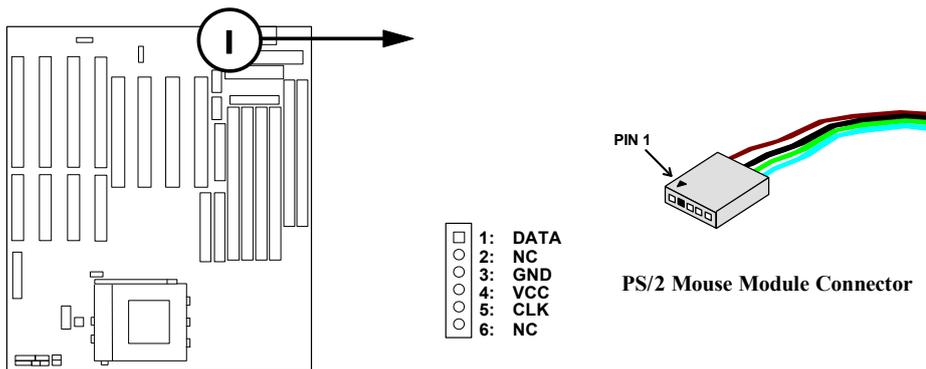
1. Keyboard Connector (5-pins female): J2

This connection is for a standard IBM-compatible keyboard. May also be known as a 101 enhanced keyboard.



1. PS/2 Mouse Connector (6-pins block): J100

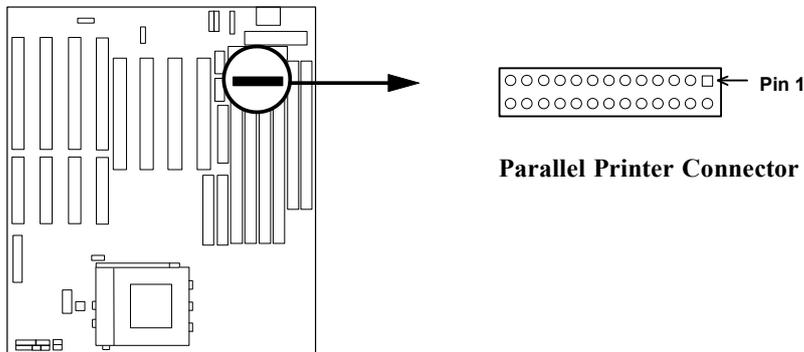
If you are using a PS/2 mouse, you must purchase an optional PS/2 mouse set which connects to the 6-pins block and mounts to an open slot on your computer's case.



1. Parallel Printer Connector (26-pins Block): J10

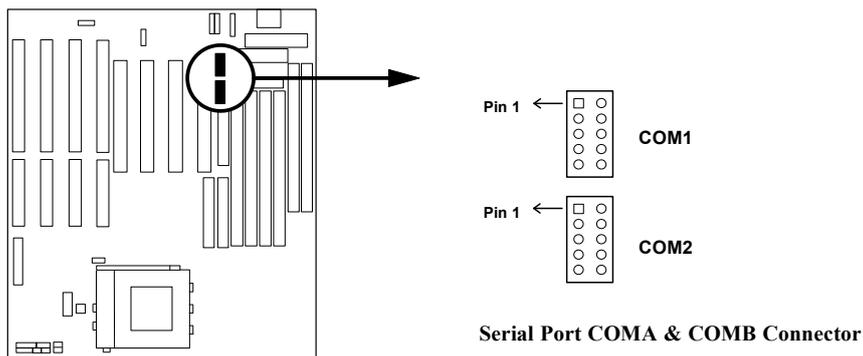
Connection for the included parallel port ribbon cable with mounting bracket. Connect the ribbon cable to this connection and mount the bracket to the case on an open slot. It will then be available for a parallel printer cable.

Note: Serial printers must be connected to the serial port. You can enable the parallel port and choose the IRQ through BIOS Setup on [page 29](#) “Onboard Parallel Port”.



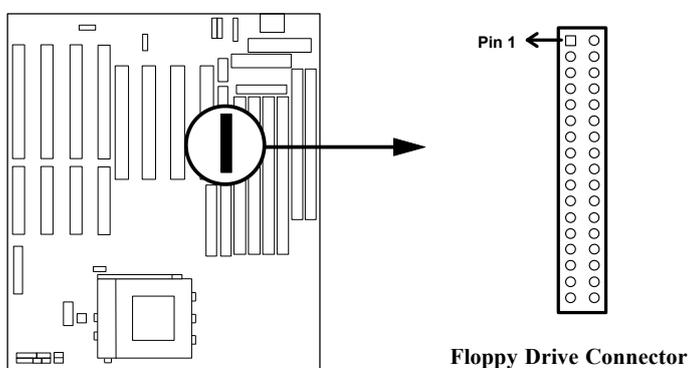
1. Serial port COMA and COMB Connector (Two 10-pins blocks): COM1,COM2

These connectors support the provided serial port ribbon cables with mounting bracket. Connect the ribbon cables to these connectors and mount the bracket to the case on an open slot. The two serial ports on the mounting bracket will then be used for pointing devices or other serial devices. See [page 29](#) for BIOS configuration of “Onboard Serial Port”



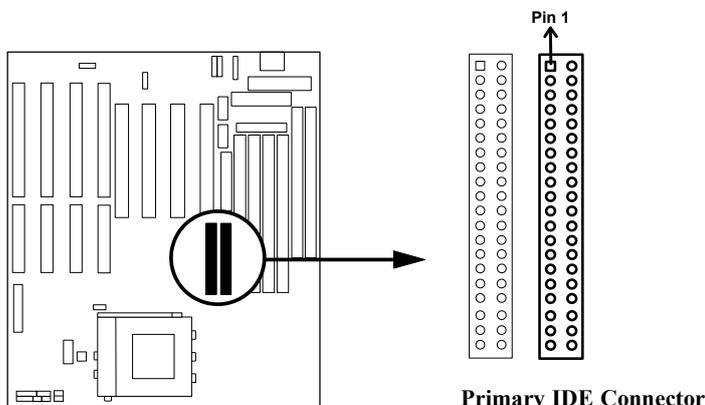
1. Floppy drive Connector (34-pins block): FDC. (J16)

This connector supports the provided floppy drive ribbon cable. After connecting the single plug end to motherboard, connect the two plugs at other end to the floppy drives.



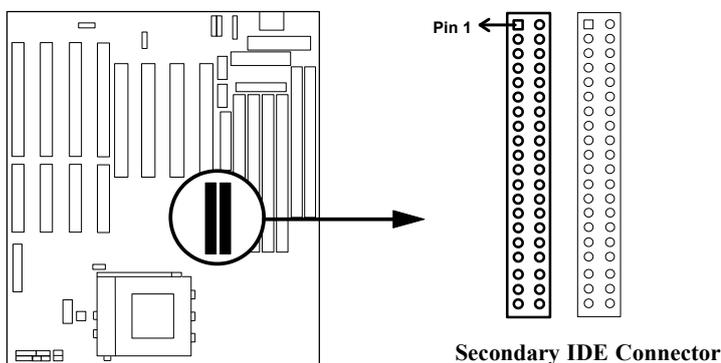
1. Primary IDE Connector (40-pins block): J17

This connector supports the provided IDE hard disk ribbon cable. After connecting the single plug end to motherboard, connect the two plugs at other end to your hard disk(s). If you install two hard disks, you must configure the second drive to Slave mode by setting its jumpers accordingly. Please refer to the documentation of your hard disk for the jumper settings.



1. Secondary IDE Connector (40-pin block): J18

This connector connects to the next set of Master and Slave hard disks. Follow the same procedure described for the primary IDE connector. You may also configure two hard disks to be both Masters using one ribbon cable on the primary IDE connector and another ribbon cable on the secondary IDE connector.



1. SMI suspend switch lead: SMI

This allows the user to manually place the system into a suspend mode or “Green” mode where system activity will be instantly decreased to save electricity and expand the life of certain components when the system is not in use. This 2-pin connector (see the figure below) connects to the case-mounted suspend switch. If you do not have a switch for the connector, you may use the “Turbo Switch” since it does not have a function. SMI is activated when it detects a **short to open** moment and therefore leaving it shorted will not cause any problems. May require one or two pushes depending on the position of the switch. Wake-up can be controlled by settings in the BIOS but the keyboard will always allow wake-up (the SMI lead cannot wake-up the system). If you want to use this connector, “Suspend Switch” in the POWER MANAGEMENT SETUP of the BIOS software should be on the default setting of **Enable** (see [page 25](#)).

Selections

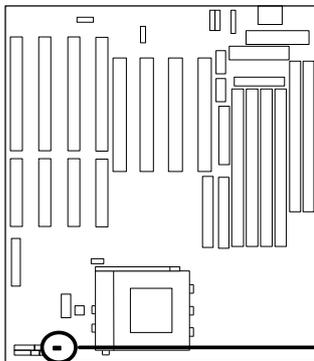
Enter suspend mode

Normal

SMI

short

open



Enter suspend mode



Normal

SMI suspend switch lead

1. Turbo LED switch: TB LED

The motherboard's turbo function is always on. The turbo LED will remain constantly lit while the system power is on. You may wish to connect the Power LED from the system case to this lead. See the figure on [page 15](#).

1. Reset switch lead: RESET

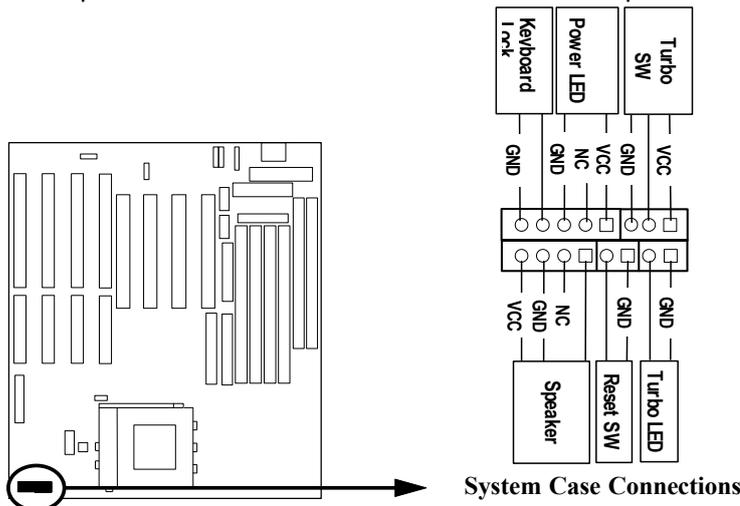
This 2-pin connector connects to the case-mounted reset switch for rebooting your computer without having to turn off your power switch. This is a preferred method of rebooting in order to prolong the life of the system's power supply. See the figure below.

1. Keyboard lock switch lead: KEYLOCK

This 5-pin connector connects to the case-mounted key switch for locking the keyboard for security purposes. See the figure below.

1. Speaker connector: SPEAKER

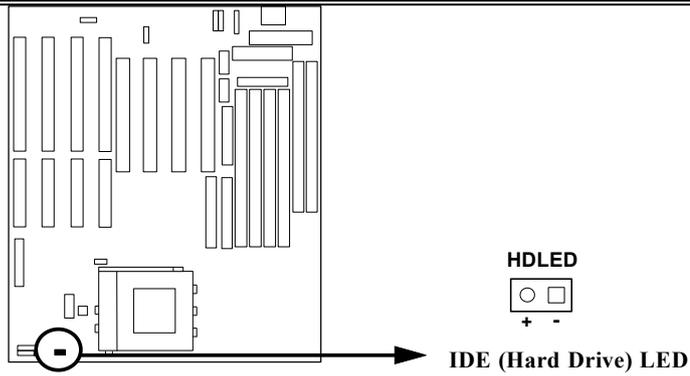
This 4-pin connector connects to the case-mounted speaker. See the figure below.



System Case Connections

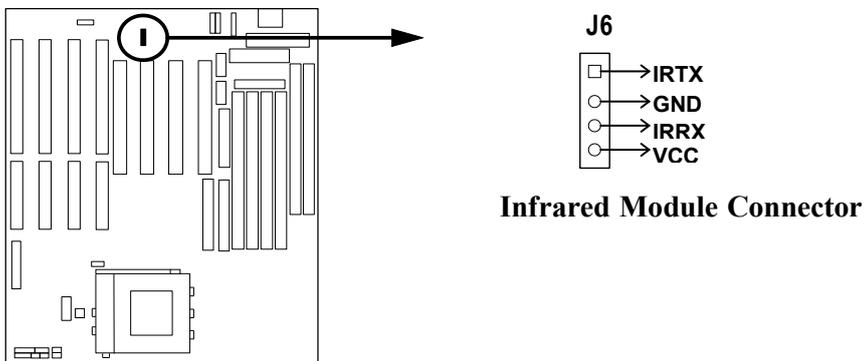
1. IDE activity LED: HDLED

This connector connects to the hard disk activity indicator light on the case.

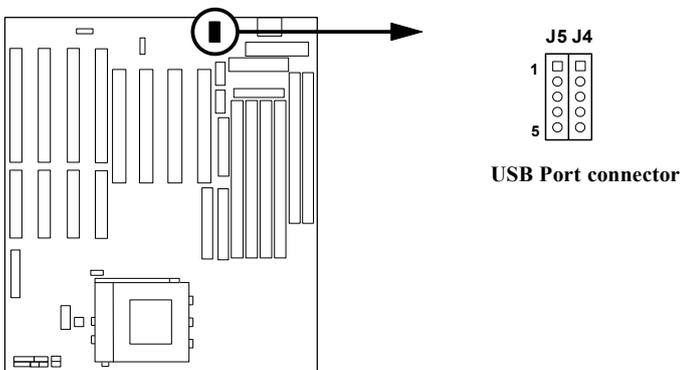


15. IR infrared module connector: J6

This connector supports the optional wireless transmitting and receiving infrared module. This module mounts to small opening on system cases that support this feature. You must also configure the setting through BIOS setup on [page 29](#) to select HPSIR/ASKIR. Use the four pins as shown on the Back View and connect a ribbon cable from the module to the motherboard according to the pin definitions.



15. USB Port connector: J4/J5



Chapter 3

AMIBIOS SETUP

AMIBIOS provides a built-in Setup program which allows user to modify the basic system configuration and hardware parameters. The modified data will be stored in a battery-backed CMOS RAM so the data will be retained even when the power is turned off. In general, the information saved in the CMOS RAM stay unchanged unless there is configuration change in the system, such as hard drive replacement or new equipment is installed.

It is possible that CMOS had a battery failure which cause data lose in CMOS RAM. If so, re-enter system configuration parameters become necessary.

Default Settings

Every option in AMIBIOS Setup contains two default values: an Fail-Safe default and the Optimal default value.

Optimal Defaults: The Optimal default values provide optimum performance settings for all devices and system features.

Fail-Safe Defaults: The Fail-Safe default settings consist of the safest set of parameters. Use them if the system is behaving erratically. They should always work but do not provide optimal system performance characteristics.

To enter Setup Program

Power on the computer system and press key immediately will bring you into BIOS CMOS SETUP UTILITY.

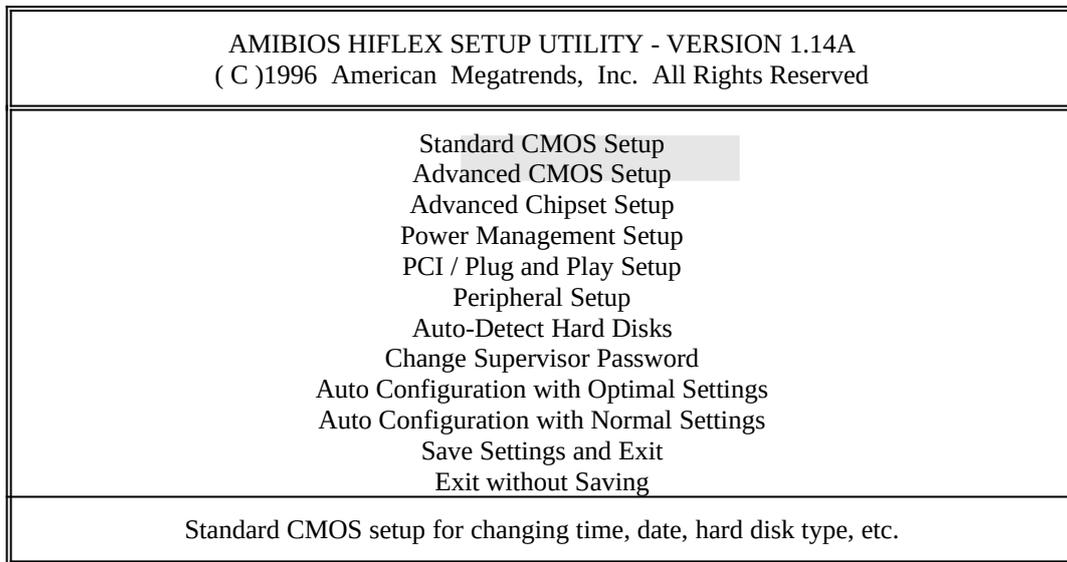


Figure 3-1

The menu displays all the major selection items and allow user to select any one of shown item. The selection is made by moving cursor (press any direction key) to the item and press <Enter> key. An on-line help message is displayed at the bottom of the screen as cursor is moving to various items which provides user better understanding of each function. When a selection is made, the menu of selected item will appear so the user can modify associated configuration parameters.

3-1 STANDARD CMOS SETUP

Choose "Standard CMOS Setup" in the AMIBIOS HIFLEX SETUP UTILITY menu (Figure 3-1). The Standard CMOS Setup allows user to configure system setting such as current date and time, type of hard disk drive installed in the system, floppy drive type, and the type of display monitor. When a field is highlighted (direction keys to move cursor and <Enter> key to select), the entries in the field will be changed by pressing <PgDn> or <PgUp> keys or user can enter new data directly from the keyboard.

AMIBIOS SETUP STANDARD COMS SETUP									
(C)1996 American Megatrends, Inc. All Rights Reserved									
Date (mm/dd/yyyy): Fri Apr 18, 1997			Base Memory: KB						
Time (hh/mm/ss): 09:11:18			Extol Memory: MB						
Floppy Drive A: 1.2 MB 5 1/4"									
Floppy Drive B: Not Installed									
			LBA Blk PIO 32Bit						
Type	Size	Cyln	Head	Wpcom	Sec Mode	Mode	Mode	Mode	Mode
Pri Master	: Auto			Off	Off	Auto	Off		
Pri Slave	: Auto			Off	Off	Auto	Off		
Sec Master	: Auto			Off	Off	Auto	Off		
Sec Slave	: Auto			Off	Off	Auto	Off		
Boot Sector Virus Protection			Disable						
Month : Jan - Dec			ESC : Exit ↓ : Sel						
Day : 01 - 31			PgUp/PgDn : Modify						
Year : 1901 - 2099			F2/F3 : Color						

Figure 3-2

- **Floppy Drive A, B**

Choose the Floppy Drive A or B to specify the floppy drive type. The settings are 360KB 5 1/4", 1.2MB 5 1/4", 720MB 3 1/2", 1.44MB 3 1/2", 2.88MB 3 1/2".

- **Pri Master, Pri Slave, Sec Master, Sec Slave**

Choose these types to configure the hard disk drive named in the option. When you press Enter key on a field the following parameters are listed: Type, LBA/Large Mode, Block Mode, 32Bit Mode, and PIO Mode. All parameters relate to IDE drives except Type.

- **User-Defined Drive**

If you are configuring any drive with drive parameters that do not match drive types 1 - 46, you must select User in the type field. You must then enter the drive parameters on the screen that appears, The drive parameters include: Cylinders, Heads, Write Precompensation, Landing Zone, Sectors, Capacity.

Specifications for SCSI hard disks need not to be entered here since they operate using device drivers and are not supported by any the BIOS. If you install any vendor's SCSI controller card, please refer to their respective documentation on how to install the required SCSI drivers.

- **Configuring IDE Drives**

If the hard disk drive to be configured is an IDE drive, select the appropriate drive field (Pri Master, Pri Slave, Sec Master, or Sec Slave). Choose the Type parameter and select Auto. AMIBIOS automatically detects the IDE drive parameters and displays them.

Note: *If hard disk Pri Master/Slave and Sec Master/Slave were used Auto option, than the hard disk size and model will be auto-detect and display during POST.*

- **Boot Sector Virus Protection:** During and after the system boots up, any attempt to write to the boot sector or partition table of the hard disk drive will halt the system and the error message will appear, in the mean time, you can run an anti-virus program to locate the problem. Default value is Disabled.

3-2 Advanced CMOS Setup

Figure 3-3 shows manufacturer's default values of J-5TXB.

AMIBIOS SETUP - ADVANCED CMOS SETUP (C)1996 American Megatrends, Inc. All Rights Reserved		
1st Boot Device	Floppy	Available Options: Disabled IDE-0 IDE-1 IDE-2 IDE-3 FLOPPY FLOPTICAL CDROM SCSI NETWORK ESC:Exit ↓ : Sel PgUp/PgDn : Modify F2/F3 : Color
2nd Boot Device	IDE0	
3rd Boot Device	Disabled	
4th Boot Device	Disabled	
Try Other boot Devices	Yes	
S.M.A.R.T. for Hard Disks	Disabled	
Quick boot	Disabled	
BootUp Num-Lock	ON	
Floppy Drive Swap	Disabled	
Floppy Access Control	Normal	
HDD Access Control	Normal	
PS/2 Mouse Support	Normal	
Primary Display	Enabled	
Password Check	VGA/EGA	
Boot To OS/2	Setup	
Internal Cache	No	
External Cache	Write Back	
System BIOS Cacheable	Write Back	
C000, 16k Shadow	Disabled	
C400, 16k Shadow	Enabled	
C800, 16k Shadow	Enabled	
CC00, 16k Shadow	Disabled	
D000, 16k Shadow	Disabled	
D400, 16k Shadow	Disabled	
D800, 16k Shadow	Disabled	
DC00, 16k Shadow	Disabled	

Figure 3 - 3

- **Quick Boot:** Set this option to Enabled to permit AMIBIOS to boot within 5 seconds. This option replaces the old above 1MB Memory Test option. The Optimal setting is Enabled. The Fail-Safe default setting is Disabled.

Setting	Description
----------------	--------------------

- | | |
|---|--|
| Disabled | <ul style="list-style-type: none"> ● Test all system memory. ● Wait up to 40 seconds for READY signal from the IDE drive. ● Wait up to 0.5 seconds after sending a RESET signal to the IDE drive to permit the IDE drive to send a READY signal. ● Check if the key was pressed. |
| <ul style="list-style-type: none"> ● Enabled | <ul style="list-style-type: none"> ● All the functions above will be viceversa. |

- **Floppy Drive Swap:** Set this option to Enabled to specify that floppy drives A: and B: are swapped. The settings are Enabled or Disabled. The Optimal and Fail-Safe default settings are Disabled.
- **Floppy Access Control:** Set floppy drive to normal access or READ-ONLY mode. The Optimal and Fail-Safe default settings are Normal.
- **HDD Access Control:** Set hard drive to normal access or READ-ONLY mode. The Optimal and Fail-Safe default settings are Normal.
- **PS/2 Mouse Support:** When this option is set to Enabled, AMIBIOS supports a PS/2 mouse. The settings are Enabled or Disabled. The Optimal and Fail-Safe default settings are Enabled.
- **Primary Display:** This option configures the primary display subsystem in the computer. The settings are Mono (monochrome), 40CGA, 80CGA, OR VGA/EGA. The Optimal and Fail-Safe default setting are VGA/EGA.
- **Password Check:** This option specifies the type of AMIBIOS password protection that is implemented. The Optimal and Fail-Safe default settings are Setup. The settings are Setup or Always.
- **Setup:** The password prompt appears only when an end user attempts to run SETUP Utility.
Always: A password prompt appears every time the computer is powered on or rebooted.
- **Boot To OS/2:** Set this option to YES when using OS2 operating systems with installed greater than 64MB of DRAM. The default is No.
- **Internal Cache:** This option selects the type of caching algorithm used by AMIBOS and the CUP for L1 cache memory (internal to the CPU). The Optimal and Fail-Safe default settings are WriteThru. The descriptions are list below:

setting	Description
Writeback	A write-back algorithm is used.
Write-through	A write-through algorithm is used.
Disabled	AMIBIOS does not specify the type of caching algorithm. The algorithm is set by the CPU.

- **External Cache:** This option selects the type of caching algorithm used by AMIBIOS and the CPU for L2 secondary (external) cache memory. The Optimal default setting is Reserved. The Fail-Safe default setting is Disabled. The descriptions are list below:

setting	Description
Writeback	A write-back algorithm is used.
Write-through	A write-through algorithm is used.
Disabled	AMIBIOS does not specify the type of caching algorithm.

- **System BIOS Cacheable:** AMIBIOS always copies the system BIOS from ROM to RAM for faster execution. Set this option to Enabled to permit the contents of the F0000h RAM memory segment to be written to and read from cache memory. The Settings are Enabled or Disabled. The Optimal default setting is Enabled. The Fail-Safe default setting is Disabled.

- C000, 16k Shadow
C400, 16k Shadow

These options specify how the contents of the video ROM are handled. The settings are:

Setting	Description
Disabled	The Video ROM is not copied to RAM.
Cached	The contents of the video ROM area from C0000h - C7FFFh RAM area can be written to or read from cache memory.
Shadow	The contents of the video ROM area from C0000h - C7FFFh are copied (shadowed) from ROM to RAM for faster execution.

- C800, 16k Shadow
CC00, 16k Shadow
D000, 16k Shadow
D400, 16k Shadow
D800, 16k Shadow
DC00, 16k Shadow

These options specify how the contents of the adapter ROM named in the option title are handled. The ROM area that is not used by ISA adapter cards will be allocated to PCI adapter cards, the Optimal and Fail-Safe default settings are Disabled. The settings are:

Setting	Description
Disabled	The specified ROM is not copied to RAM.

Cache	The contents of the ROM area are not only copied from ROM to RAM for faster execution, the contents of the RAM area can be written to read from cache memory.
Shadow	The contents of the ROM area are copied from ROM to RAM for faster execution.

3-3 Advanced Chipset Setup

Figure 3-4 shows manufacturer's default values of J-5TXB.

AMIBIOS SETUP - ADVANCED CHIPSET SETUP (C)1996 American Megatrends, Inc. All Rights Reserved		
DRAM Speed (ns)	70ns	Available Options: Manual 60ns 70ns
DRAM Read Burst Timing	x4ED0 x4FPM	
DRAM Write Burst Timing	x4ED0 x4FPM	
DRAM Lead Off Timing	11/7/3	
Memory Address Drive Strength	16Ma, 16mA	
SDRAM CAS Latency/RAS to CAS	3/3	
Fast ED0 Read Cycle Timing	Disabled	
Speculative Lead Off Timing	Disabled	
DRAM Page Idle Timeout (HCLK'S)	2	
Enhanced Paging	Disabled	
DRAM Refresh RAS Cycles (HCLK'S)	5	
Chipset NA# Asserted	Enabled	
DRAM Refresh Rate	15.6 us	
Suspend Refresh Type	CBR	
Cache DRAM Refresh Time (HCLK'S)	20	
Passive Release	Disabled	
Delayed Transaction	Disabled	
Host-to-pci Bridge Retry	Disabled	
Extended CPU-to-PIIX4 PHLDA#	Disabled	
Pipeline Cache Timing	Fastest	
Memory Hole	Disabled	
8bit I/O Recovery Time	Disabled	
16bit I/O Recovery Time	Disabled	
USB Function	Disabled	
USB Keyboard/Mouse Support	Enabled	ESC:Exit ↓:Sel PgUp/PgDn: Modify F2/F3 : Color

Figure 3-4

- **DRAM Speed (ns):** This option specifies the RAS access time (in nanoseconds) for the DRAM used in the computer for system memory. The settings are 50, 60, or 70. The Fail-Safe default setting are 70.

- **CPU To IDE Posting:** Set this option to Enabled to enable posted messages from the CPU to the IDE CONTROLLER. The settings are Enabled or Disabled. The Optimal and Fail-Safe default settings are Enabled.
- **USWC Write Posting:** Set this option to Enabled to use USWC (Uncacheable, Speculatable, Write-Combined) memory. The settings are Enabled or Disabled. The Optimal and Fail-Safe default settings are Enabled.
- **CPU To PCI Write Posting:** Set this option to Enabled go give priority posted messages from the CPU to the PCI bus. The settings are Enabled or Disabled. The Optimal and Fail-Safe default settings are Enabled.
- **PCI To DRAM Pipeline:** Set this option to Enabled to enable the pipeline from the PCI bus to system memory. The settings are Enabled or Disabled. The Optimal and Fail-Safe default settings are Enabled.
- **PCI Burst Write Combine:** Set this option to Enabled to allow write instructions to be combined in PCI Burst mode. The settings are Enabled or Disabled. The Optimal and Fail-Safe default settings are Enabled.
- **Read Around Write:** Set this option to Enabled to allow read operations to bypass write operations in the memory controller. The settings are Enabled or Disabled. The Optimal and Fail-Safe default settings are Enabled.
- **8-Bit I/O Recovery Times:** This option defines the recovery time from 1 to 8 for 8-Bit I/O.
- **16-Bit I/O Recovery Times:** This option defines the recovery time from 1 to 4 for 16-Bit I/O.

3-4 Power Management Setup

Figure 3-5 shows manufacturer's default values of J-5TXB.

AMIBIOS SETUP - POWER MANAGEMENT SETUP (C)1996 American Megatrends, Inc. All Rights Reserved		
Power Management/APM	Disabled	Available Options:

Stand By

Green PC Monitor Power State		Disabled
Video Power Down Mode	Suspend	Enabled
Hard Disk Power Down Mode	Stand By	
Hard Disk Time Out (Minute)	Disabled	
Standby Time Out (Minute)	10	
Suspend Time Out (Minute)	10	
Slow Clock Ration	37.5-50%	
Display Activity	Ignore	
Serial Port 1	Monitor	
Serial Port 2	Monitor	
Parallel Port	Ignore	
Floppy Disk	Ignore	
Primary IDE 0	Monitor	
Primary IDE 1	Monitor	
Secondary IDE 0	Monitor	
Secondary IDE 1	Monitor	
Resume on Ring	Monitor	
Modem Use I0 Port	Disabled	
Modem Use IRQ	N/A	
RTC Alarm Resume Rrom Soft Off	N/A	
RTC Alarm Date	N/A	
RTC Alarm Hour	Disabled	
RTC Alarm Minute	N/A	
RTC Alarm Second	N/A	
Soft-Off bu PWR-BTIN	N/A	
	N/A	
	Instant-off	

ESC:Exit ↓ : Sel
PgUp/PgDn : Modify
F2/F3:Color

Figure 3-5

- **Power Management/APM:**Set this option to Enabled for enable the Intel 82ff0FX ISA power management features and APM (Advanced Power Management). The settings are Enabled, Inst-On (instant-on), or Disabled. The Optimal and Fail-Safe default settings are Disabled.
- **Green PC Monitor Power State:** This option specifies the power state that the green PC-compliant video monitor enters when AMIBIOS places it in a power savings state after the specified period of display inactivity has expired. The settings are Off, Standby, Suspend, or Disabled. The Optimal and Fail-Safe default settings are Standby.
- **Video Power Down Mode:** This option specifies the power conserving state that the VESA VGA video subsystem enters after the specified period of display inactivity has expired. The settings are Disabled, Standby, or Suspend. The Optimal and Fail-Safe default settings are Disabled.
- **Hard Disk Power Down Mode:** This option specifies the power conserving state that the hard drive enters after the specified period of hard drive inactivity has expired. The settings are Disabled, Standby, or Suspend. The Optimal and Fail-Safe default settings are Disabled.

- **Hard Disk Time Out (Minute):** This option specifies the length of a period of hard disk drive inactivity. When this length of time expires, the computer enters power-conserving state specified in the Hard Disk Power Down Mode option (see the previous page). The settings are Disabled, 1 minute ~ 15 minutes. The Optimal and Fail-Safe default settings are Disabled.
- **Standby Time Out (Minute):** this option specifies the length of a period of system inactivity while in Full power on state. When this length of time expires, the computer enters Standby power state. The settings are Disabled, 1 minute ~ 15 minutes. The Optimal and Fail-Safe default settings are Disabled.
- **Suspend Time Out (Minute):** This option specifies the length of a period of system inactivity while in Standby state. When this length of time expires, the computer enters Suspend power state. The settings are Disabled, 1 minute ~ 15 minutes. The Optimal and Fail-Safe default settings are Disabled.
- **Slow Clock Ratio:** This option specifies the speed at which the system clock runs in power saving states. The settings are expressed as a ratio between the normal CPU clock speed and the CPU clock speed when the computer is in the power-conserving state. The settings are 1:1, 1:2, 1:4, 1:8, 1:16, 1:32, 1:64, or 1:128. The Optimal and Fail-Safe defaults are 1:8.
- **IRQ3 ~ IRQ15:** When set to Monitor, these options enable event monitoring on the specified hardware interrupt request line. If set to Monitor and the computer is in a power saving state, AMIBIOS watches for activity on the specified IRQ line. The computer enters the full on power state if any activity occurs.

AMIBOIS reloads the Standby and Suspend time out timers if activity occurs on the specified IRQ line.

3-5 PCI / Plug and Play Setup

Figure 3-6 shows manufacturer's default values of J-5TXB.

AMIBIOS SETUP - PCI/PLUG AND PLAY SETUP (C)1996 American Megatrends, Inc. All Rights Reserved		
Plug and Play Aware O/S	No	Available Options: No Yes
PCI Latency Timer (PCI Clocks)	64	
PCI VGA Palette Snoop	Disabled	
PCI IDE BusMaster	Disabled	
OffBoard PCI IDE Card	Auto	
OffBoard PCI IDE Primary IRQ	Disabled	
OffBoard PCI IDE secondary IRQ	Disabled	

Assign IRQ to PCI VGA Card	Yes	
PCI Slot1 IRQ Priority	Auto	
PCI Slot2 IRQ Priority	Auto	
PCI Slot3 IRQ Priority	Auto	
PCI Slot4 IRQ Priority	Auto	
DMA Channel 0	PnP	
DMA Channel 1	PnP	
DMA Channel 2	PnP	
DMA Channel 3	PnP	
DMA Channel 5	PnP	
DMA Channel 6	PnP	
DMA Channel 7	PnP	
IRQ3	PCI/PnP	
IRQ4	PCI/PnP	
IRQ5	PCI/PnP	
IRQ6	PCI/PnP	
IRQ7	PCI/PnP	
IRQ9	PCI/PnP	
IRQ10	PCI/PnP	
IRQ11	PCI/PnP	
IRQ12	PCI/PnP	
IRQ14	PCI/PnP	
IRQ15	PCI/PnP	
Reserved Memory Size	Disabled	ESC:Exit ↓:Sel
Reserved Memory Address	C8000	PgUp/PgDn: Modify
		F2/F3 : Color

Figure 3-6

- **Plug and Play Aware O/S:** Set this option to Yes if the operating system in this computer is aware of and follow the Plug and Play specification. Currently, only Windows 95 is PnP-aware. The settings are Yes or No. The Optimal and Fail-Safe default settings are No.
- **PCI Latency Timer (PCI Clocks):** This option specifies the latency timings (in PCI clocks) for all PCI devices on the PCI bus. The Settings are 32, 64, 96, 128, 160, 192, 224, or 248. The Optimal and Fail-Safe default settings are 64.
- **PCI VGA Palette Snoop:** When this option is set to Enabled, multiple VGA devices operating on different buses can handle data from the CPU on each set of palette registers on every video device. Bit 5 of the command register in the PCI device configuration space is the VGA Palette Snoop bit (0 is disabled). For example, if there are two VGA devices in the computer (one PCI and one ISA) and the:

VAG Palette snoop Bit Setting Action

Disabled	Data read and written by the CPU is only directed to the PCI VGA device's palette registers.
Enabled	Data read and Written by the CPU is directed to the both the PCI VGA device's palette registers and the ISA VGA device palette registers, permitting the palette registers of both device to be identical.

This option must be set to Enabled if an ISA adapter card requires VGA palette snooping.

The settings are Enabled or Disabled. The Optimal and Fail-Safe default settings are Disabled.

- PCI IDE Bus Master: Set this option to Enabled to specify that the IDE controller on the PCI local bus includes a bus mastering capability. The settings are Enabled or Disabled. The Optimal and Fail-Safe default settings are Disabled.
- Offboard PCI IDE Card: This option specifies if an offboard PCI IDE controller adapter card is installed in the computer. You must specify the PCI expansion slot on the motherboard where the offboard PCI IDE controller is installed. If an offboard PCI IDE controller is used, the onboard IDE controller is automatically disabled. The settings are Auto (AMIBIOS automatically determines where the offboard PCI IDE controller adapter card is installed), Slot1, Slot2, Slot3, or Slot4. The Optimal and Fail-Safe default settings are Auto.

If an offboard PCI IDE controller adapter card is installed in the computer, you must also set the Offboard PCI IDE Primary IRQ and Offboard PCI IDE Secondary IRQ options.
- Offboard PCI IDE Primary IRQ, Offboard PCI IDE Secondary IRQ: These options specify the PCI interrupt used by the Primary (or Secondary) IDE channel on the offboard PCI IDE controller. The settings are Disabled, Hardwired, INTA, INTB, INTC, or INTD. The Optimal and Fail-Safe default settings are Disabled.
- IRQ3 ~ IRQ15: These options specify the bus that the specified IRQ line is used on. These options allow you to reserve IRQs for legacy ISA adapter cards.
- These options determine if AMIBIOS should remove an IRQ from the pool of available IRQs passed to devices that are configurable by the system BIOS. The available IRQ pool is determined by reading the ESCD NVRAM. If more IRQs must be removed from the pool, the end user can use these options to reserve the IRQ by assigning an ISA/EISA setting to it. Onboard I/O is configured by AMIBIOS. All IRQs used by onboard I/O are configured as PCI/PnP.

3-6 Peripheral Setup

Figure 3-7 shows manufacturer's default values of J-5TXB.

AMIBIOS SETUP - PERIPHERAL SETUP (C)1996 American Megatrends, Inc. All Rights Reserved		
OnBoard FDC	Auto	Available Options: Auto Disable Enabled
OnBoard Serial Port1	Auto	
Serial Port1 Mode	Normal	
IR Duplex Mode	N/A	
IR Transmitter Polarity	N/A	
IR Receiver Polarity	N/A	
OnBoard Serial Port2	Auto	

Serial Port2 Mode	Normal	ESC:Exit ↓:Sel PgUp/PgDn:Modify F2/F3:Color
IR Duplex Mode	N/A	
IR Transmitter Polarity	N/A	
IR Receiver Polarity	N/A	
OnBoard Parallel Port	Auto	
Parallel Port Mode	Normal	
EPP Version	N/A	
Parallel Port IRQ	Auto	
Parallel Port DMA Channel	N/A	
OnBoard IDE	Both	

Figure 3-7

- **OnBoard FDC:** This option enables the floppy drive controller on the motherboard. The settings are Auto, Enabled or Disabled. The Optimal and Fail-Safe default settings are Auto.
- **OnBoard Serial Port1, OnBoard Serial Port2:** These option enable serial ports on the motherboard and specifies the base I/O port address for serial ports. The settings are Auto, Disabled, 3F8h, 2F8h, 3E8h, 2E8h. The Optimal and Fail-Safe default settings are Auto.
- **Serial Port 2 Mode:** This option enables the IR functions on the motherboard. The settings are Normal, IrDA, ASKIR. The Optimal and Fail-Safe default settings are Normal.
- **OnBoard Parallel Port:** This option enables the parallel port on the motherboard and specifies the parallel port base I/O port address. The settings are Auto, Disabled, 378h, 78h, 3BCh. The Optimal and Fail-Safe default settings are Auto.
- **Parallel Port Mode:** This option allows the user to select the parallel port mode. The settings are Normal, Bi-Dir, EPP, ECP. The Optimal and Fail-Safe default settings are Normal.

Setting	Description
Normal	The normal parallel port mode is used. This is the default setting.
Bi-Dir	Use this setting to support bidirectional transfers on parallel port.
EPP	The parallel port can be used with devices that adhere to the Enhanced Parallel Port (EPP) specification. EPP uses the existing parallel port signals to provide asymmetric bidirectional data transfer driven by the host device.
ECP	The parallel port can be used with devices that adhere to the Extended Capabilities port (ECP) specification. ECP uses the DMA protocol to achieve transfer rates of approximately 2.5Mbps. ECP provides symmetric bidirectional communications.

- **Power Switch Control:** This option allows user to manually place the system into a suspend mode where system activity will be instantly decreased to save electricity and expand the life of certain components when the system is not in use. The settings are 4 Seconds Off, 1 Touch, Suspend. The Optimal and Fail-Safe default settings are 4 Seconds Off.

- **RTC Alarm to Power On (ALi Chipset only):** This option enables computer wake up automatically within 31 days. The settings are Enabled or Disabled.
- **OnBoard IDE:** This option specifies the onboard IDE controller channels that will be used. The settings are Both, Disabled, Primary, Secondary. The Optimal and Fail-Safe default settings are Both.

3-7 Auto-Detect Hard Disks

The “Auto-Detect Hard Disks” Utility is a very useful tool, especially when you do not know which hard disk type you are using. You can use this utility to detect the correct disk type and install into the system automatically. You can also set DISK TYPE to “Auto” in the Standard CMOS Setup to have same result. The BIOS will Auto-detect the hard disk size and model on display during POST.

Figure 3-8 shows all the setting after you executed Auto-Detect Hard Disks function.

AMIBIOS HIFLEX SETUP UTILITY - VERSION 1.07 (C)1996 American Megatrends, Inc. All Rights Reserved									
Date (mm/dd/yyyy): Fri Apr 18, 1997									
Time (hh/mm/ss): 09:11:18									
Floppy Drive A: 1.2 MB 5 1/4									
Floppy Drive B: Not Installed									
LBA Blk PIO 32Bit									
Type	Size	Cyln	Head	Wpcom	Sec	Mode	Mode	Mode	Mode
Pri Master	: User	1626	3305	16	65535	63	On	On	4 Off
Pri Slave	: Not Installed								
Sec Master	: Not Installed								
Sec Slave	: Not Installed								
Boot Sector Virus Protection Disable									
Month : Jan - Dec				ESC:Exit ↓ : Sel					
Day : 01 - 31				PgUp/PgDn : Modify					
Year : 1901 - 2099				F2/F3 : Color					

Figure 3-8

3-8 Change Supervisor Password

This option lets you configure the system to require a password each time the system boots or an attempt is made to enter the Setup program (Refer to Figure 3-3 for the details).

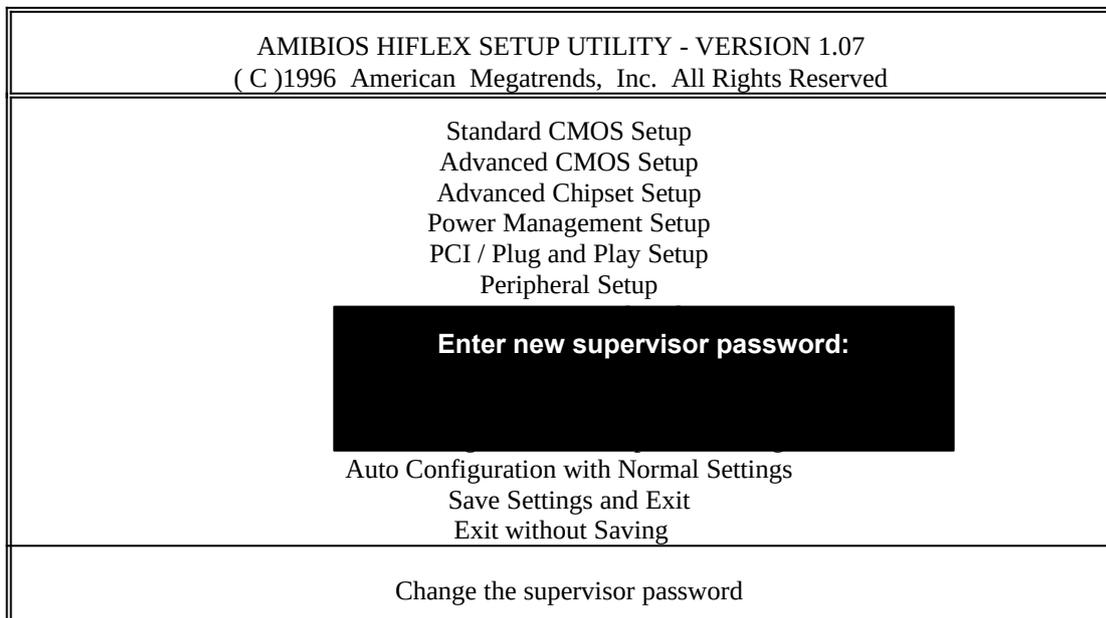


Figure 3-9

3-9 Auto Configuration with Optimal Settings

This option provide optimum performance settings for all devices and system features; however, you need to be sure that your HARDWARE ENVIRONMENT are very stable before you enable this option.

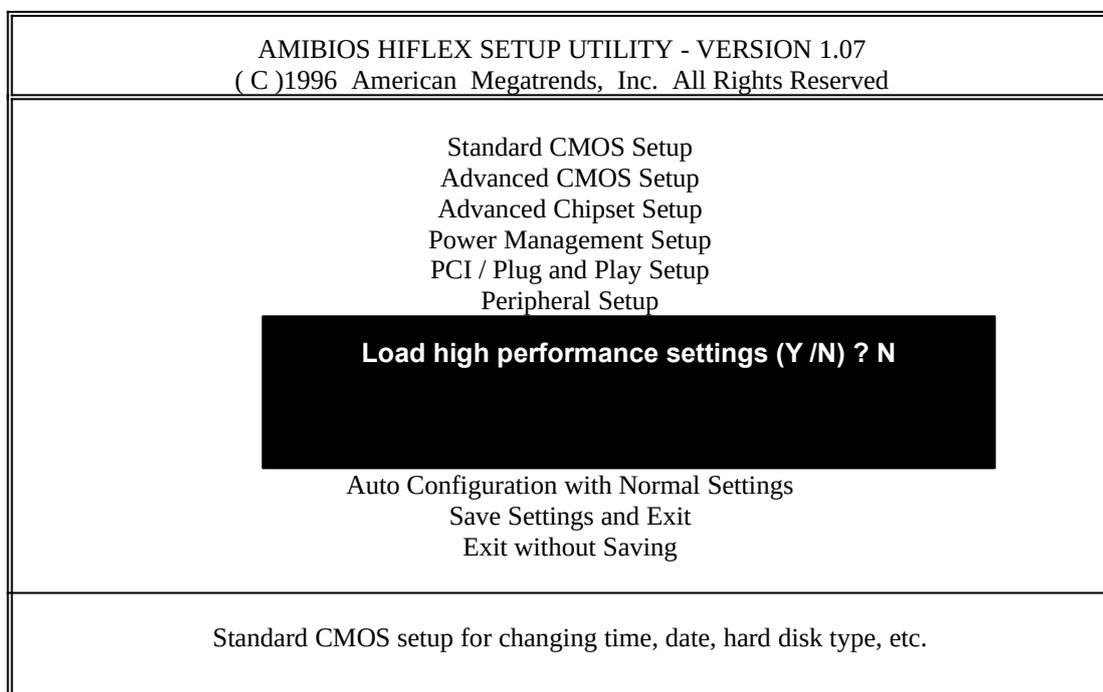


Figure 3-10

3-10 Auto Configuration with Normal Settings

This option consist of the safest set of parameters. Use them if the system is behaving erratically. They should always work but do not provide optimal system performance characteristics.

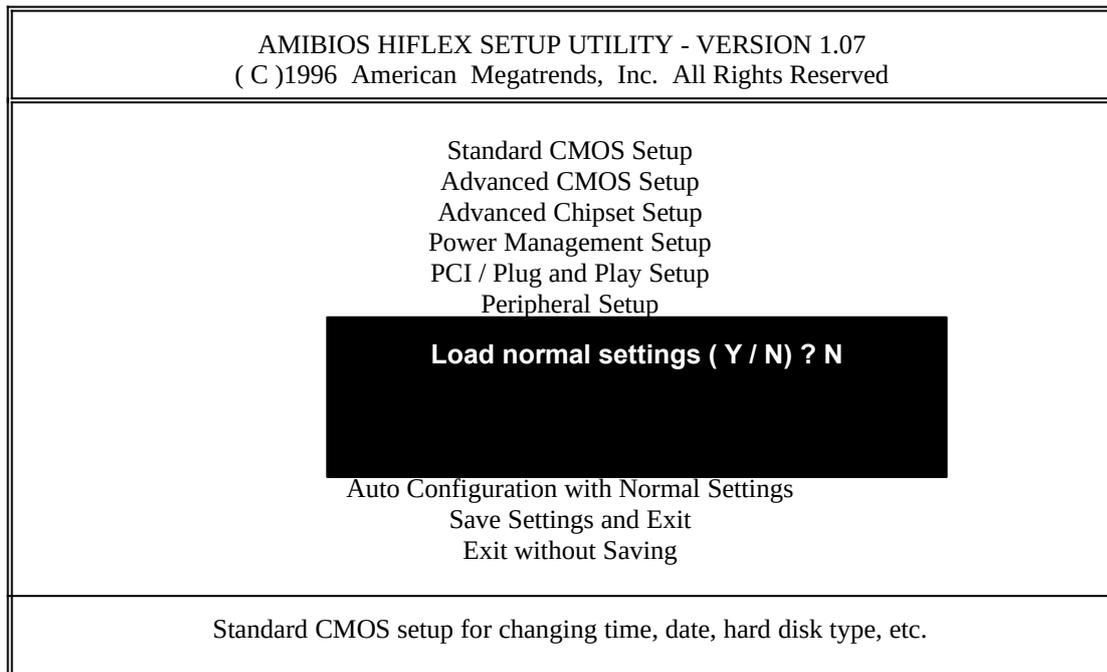


Figure 3-11

3-11 Save Settings and Exit

This option will bring you back to boot up procedure with all the changes you just made which are recorded in the CMOS RAM.

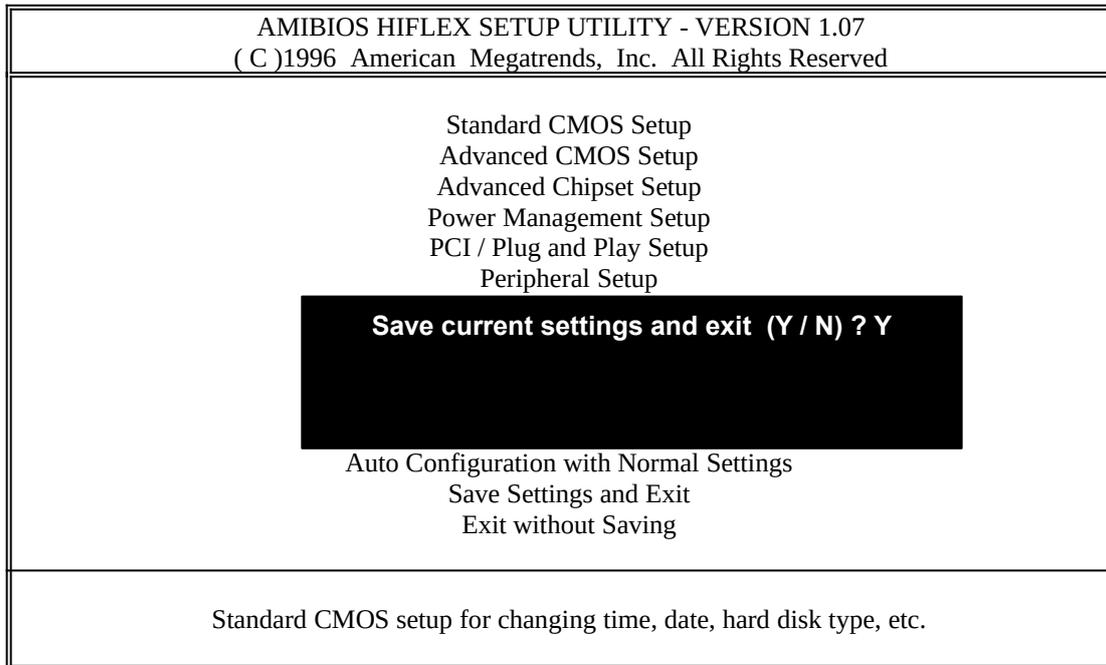


Figure 3-12

3-12 Exit Without Saving

This option will bring you back to normal boot up procedure without saving any data into CMOS RAM. All of the old data in the CMOS will not be changed.

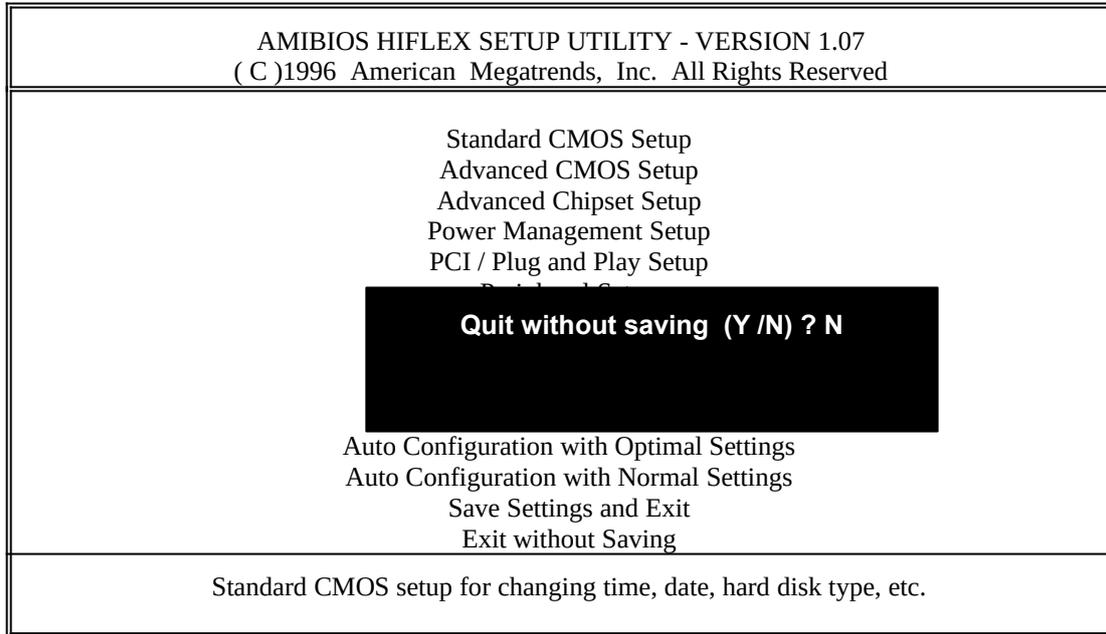


Figure 3-13