

Megtron International, Inc.

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Norcross, Georgia 30071

ATX Type Pentium –II 266/300/400Mhz Mid Tower Computer

Model: MEGTRONP2BX01

User's Manual(Preliminary)

FCC Warning

Information to the User

This equipment has been tested and found to comply with the limits for a class B digital device pursuant to part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help and for additional suggestions.

The user may find the following booklet prepared by the Federal Communica-

Problems." This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4.

FCC Warning

The user is cautioned that changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

NOTE: In order for an installation of this product to maintain compliance with the limits for a Class B device, **shielded** cables must be used.

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Chapter 1. Introduction

1.1 Product Overview

Thank you for purchasing the P2BXA motherboard. This motherboard utilizes Intel's latest technology, namely 440BX AGPset chipset. We have conducted a motherboard compatibility test with a variety of hardware and software, such as CPUs, memory, display cards, CD ROMs, Novell, MS Office....etc.

We have set high standards on our quality control, with absolute confidence, we believe this product is the wisest choice.

This manual is composed of three sections. The first section is the introduction of this motherboard, and the second section explains the proper procedure to setup the motherboard, the third section provides information on how to setup the CMOS.

Features:

- ◎ Support Desktop Management Interface (DMI) through BIOS.
- ◎ Support NCR SCSI BIOS (Optional).
- ◎ Support Accelerated Graphics Port (AGP) cards for high performance.
- ◎ Modem Remote Ring On.
- ◎ Wake up on LAN.
- ◎ RTC Wake Up Alarm: Program the date/time to wake up your system.
- ◎ CPU Thermal Protection: Warning when the CPU temperature is too high (optional).
- ◎ CPU & System Voltage Monitoring (optional).
- ◎ CPU, Chassis & Power supply fan speed monitoring (optional).
- ◎ Support Advanced Configuration Power Interface (ACPI).
- ◎ BIOS Green feature function, and "Plug & Play" Flash ROM.

1.2 Specifications

- CPU :** -Supports Intel Pentium II Processors 233~450 MHz
- Chipset :** -Intel 440BX AGPset chipset
- DIMM :** -Supports 3.3V EDO or SDRAM in 3 168-pin banks,
each bank consists of 1x168-pin 64-bit DIMM socket,
which can support memory sizes of 8/16/32/64/128/256
MB modules.
-Supports up to a maximum of 768 MB system memory
- IDE :** -Dual channel PIO and PCI Bus Master IDE ports support
up to 4 EIDE devices for HDD or CD-ROM
-Supports PIO Mode 4 with data transfer rate up to 14 MB/
Sec
-Supports Ultra DMA 33 (UDMA) with data transfer rate
up to 33 MB/Sec
- BIOS :** -Award BIOS V.4.51 with built-in Anti-Virus, DMI
support, and green function (Plug-and-Play BIOS)
-Supports NCR SCSI BIOS (Optional)
-Supports CD-ROM, SCSI, and LS120/ZIP boot up
- I/O Devices :** -One FDD control port supports two of the 5.25" or
3.5" floppy drives up to 2.88 MB.
-Two high-speed 16550 UART compatible serial ports
-One parallel ports with ECP/ EPP compatibility.
-One PS/2 mouse port
-One PS/2 Keyboard connector
- IR Port :** -One IrDA/ASKIR compatible Infrared interface port.
(Cable optional)
- USB Ports :** -Two Universal Serial Bus (USB) ports support up
to 127 peripheral devices.
-

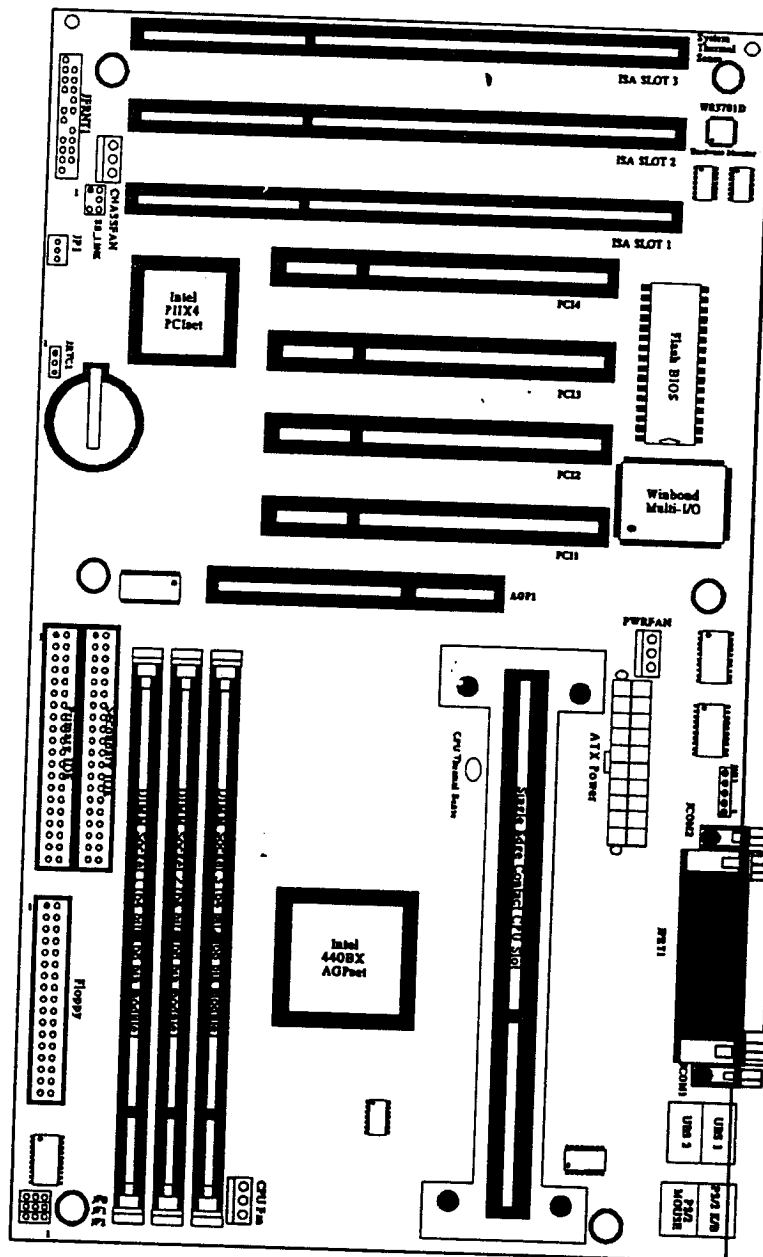
-
- ATX Power** :
- Supports Modem remote Ring-On function
 - Supports software power off function
 - Supports RTC Wake-Up.
 - Supports Wake up on LAN.
- Expansion Slots** :
- Four 32-bit PCI expansion slots
 - Three 16-bit ISA expansion slots
 - One 32-bit AGP expansion slot
- Others** :
- Supports Hardware Doctor function (optional).
 - Supports Creative's Sound Blaster 16 compatibility for real-mode DOS games.
- Operating System** :
- Supports Windows 95, Windows NT, MS-DOS V. 6.22, OS2, Novell, Unix, SCO UNIX.....
- Dimension** :
- 305 mm x 180 mm ATX Form factor

1.3 Content

The P2BXA motherboard box contains the following items:

- One P2BXA Motherboard
- One IDE Ribbon Cable
- One Floppy Ribbon Cable
- One Retention mechanism
- One Driver CD
- User's Manual & Quick Installation Chart

1.4 MotherBoard Layout



Chapter 2. Hardware Setup

2.1 Installation Procedure

1. Jumper settings (BIOS and CPU)
2. Installation of CPU
3. Installation of Memory
4. I/O Connections & Panel Connections

2.1.1 Jumper Settings

In this manual, (1-2) represents the first and second pins of the jumper. (2-3) represents the second and third pins of the jumper. On the motherboard, you will see two sets of jumpers with different color jumper caps:

Yellow Jumper Caps : Sets the Function of Flash CMOS
JRTC1

Green Jumper Caps : Sets the type and speed of CPU
JF0, JF1, JF2

WARNING: Electronic parts are Static sensitive. To prevent damage to the computer and its parts please take the following measures.

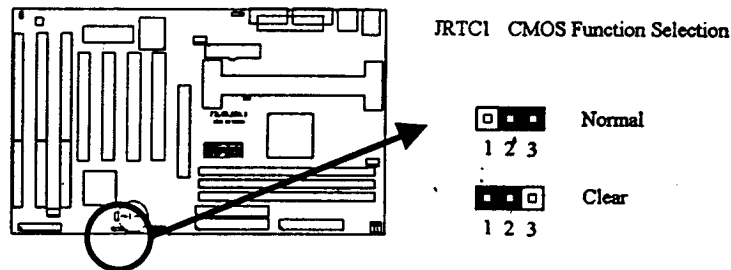
- Work on a surface such as concrete, linoleum or hard wood floor.
- Ground your self with either a properly installed grounding strap or by touching a major electrical appliance long enough to discharge the static.

2.1.2 Clearing the CMOS (Yellow Jumper Caps)

JRTC1: CMOS Function Selection

1-2 : Clear data

2-3 : Normal Operation (Default Setting)



How to Clear the CMOS Setting

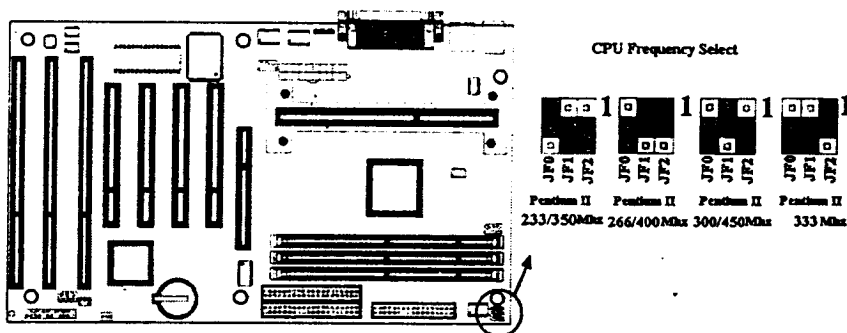
- (1) Turn off the power.
- (2) Remove ATX power cable from connector J2.
- (3) Remove Yellow Jumper Cap from JRTC1 (2-3) and put on JRTC1 (1-2) to remove the CMOS setting.
- (4) Remove Yellow Jumper Cap from JRTC1 (1-2) and put on JRTC1 (2-3) .
- (5) Connect ATX power cable back to connector J2.
- (6) Turn on the power.
- (7) While the system reboots, press <DEL> key to set the BIOS setup.

2.1.3 CPU Voltage Setting

The motherboard supports Pentium II VID function, the CPU core voltage is automatically detected, the range is from 1.3V to 3.5V.

2.1.4 CPU Frequency Selection

Model	Model	Model	Model	Model	Model
350/100	233/66	3.5x	1-2	2-3	1-2
400/100	266/66	4.0x	2-3	1-2	2-3
450/100	300/66	4.5x	2-3	1-2	2-3
500/100	333/66	5.0x	2-3	1-2	2-3

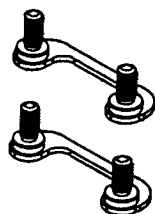


2.2 Installation of CPU

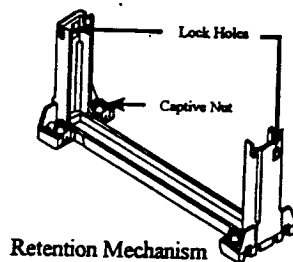
The motherboard provides a Single Edge Contact (SEC) slot for a Pentium II processor packaged in an SEC cartridge. Follow these steps to install Pentium II CPU:

1. Mount the Retention Mechanism :

Locate the SEC slot , gently put CPU Retention Mechanism onto it. Note that there is a notch at one side of the SEC slot to prevent wrong orientation. Put spacer below the motherboard (solder side). Then, screw the (4) captive nuts in place.



Spacer

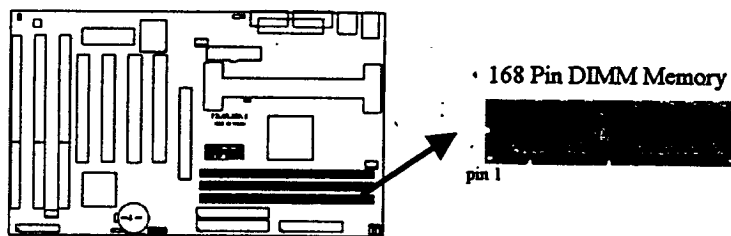


2. Insert the Pentium II CPU:

Attach the fan heatsink supports to the Pentium II CPU and slide the CPU into the Retention Mechanism. Make sure that pin 1 of the CPU aligns with pin 1 of the SEC slot. The lock hole on the Retention Mechanism indicates the side of CPU fan and heatsink. Plug in the fan cable to the three pin fan connector on the motherboard (CPUFAN).

2.3 Installation of Memory

P2BXA motherboard has 3x168-pin 64-bit Dual Inline Memory Module (DIMM) sockets divided into 3 banks. You can install 3.3V Extended Data Output (EDO) or Unbuffered Synchronous DRAM (SDRAM) memory. This will increase the system reliability.

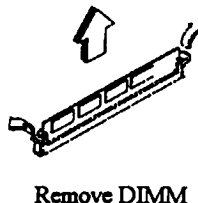
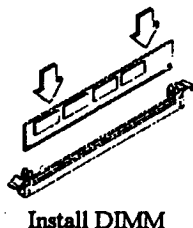


2.3.1 Installation of 168-pin DIMM (Dual Inline Memory Module)

1. Before inserting the DIMM, make sure the pin1 of the DIMM matches with the pin1 on the DIMM socket.
2. Insert DIMM into the DIMM sockets at a 90-degree angle and press down.

2.3.2 Removal of 168-pin DIMM

1. Press the holding clips on both sides of the socket outward to release the DIMM.
2. Gently pull the DIMM out of the socket.



2.3.3 Memory Configuration

There is no jumper setting required for the memory size or type. It is automatically detected by the system BIOS, and the total memory size is to add them together.

Slot	Memory Type
DIMM1	EDO/SDRAM 8, 16, 32, 64, 128, 256MB
DIMM2	EDO/SDRAM 8, 16, 32, 64, 128, 256MB
DIMM3	EDO/SDRAM 8, 16, 32, 64, 128, 256MB

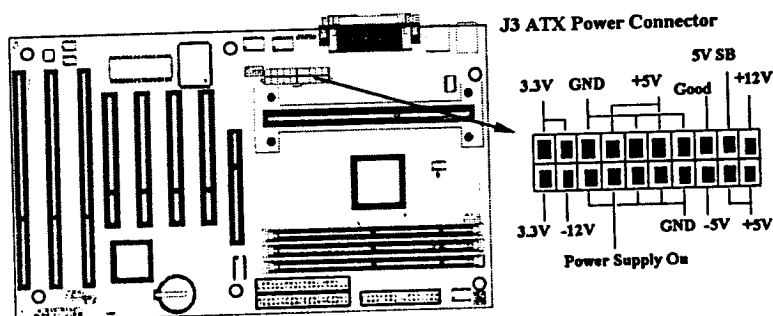
2.4 I/O Connections/Panel Connections

I/O Connections

J3	ATX Power Connector
PWRFAN	Power fan connector
CHASSFAN	Chassis fan connector
CPUFAN	CPU fan connector
JIR1	Infrared Connector (Cable optional)
JP1	Wake up on LAN connector
SB_LINK	for link with Creative's Sound Blaster 16
JFLP1	Floppy Disk Drive Connector
IDE1, 2	Primary/ Secondary IDE Connectors
JMOUSE1	PS/2 Mouse Port
JKB1	PS/2 Keyboard Connector
JCOM1, 2	Serial Ports 1 & 2
JPRT1	Printer Port
USB1, 2	USB Connector

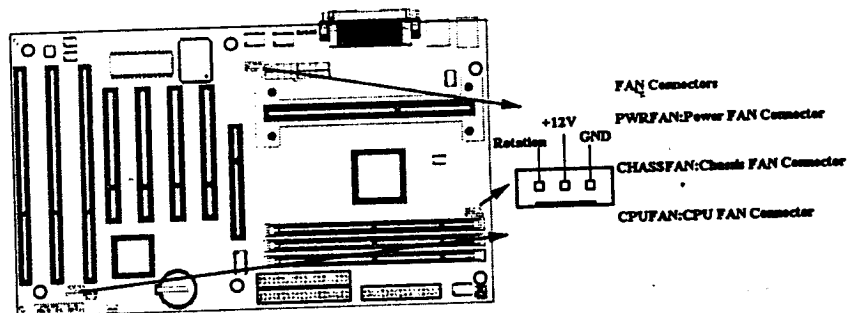
2.4.1 ATX Power Connector (20-pin J3)

Make sure that the power supply is off before connecting or disconnecting the power cable.



2.4.2 Power, Chassis & CPU Fan Connectors (3-pin FAN)

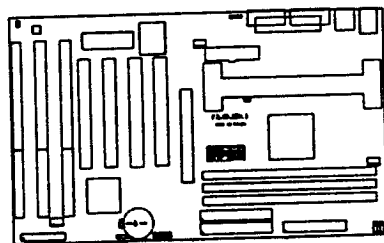
Connect the fan's plug to the board taking into consideration the polarity of the connector.



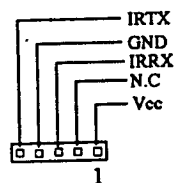
2.4.3 Infrared Connector (5-pin JIR1)

This connector supports the optional wireless transmitting and receiving infrared module, with this module and application software such as Laplink or Win95 Direct Cable Connection, user can transfer files to or from their laptops, notebooks, PDA, PCs and printers. The connector supports IrDA (115.2Kbps, 2 meters) and ASK-IR (56Kbps). Install infrared module onto Infrared connector and configure the setting through 'UART Mode Select' in **Integrated Peripherals** to select

whether UART is directed for use with COM2 or Infrared.

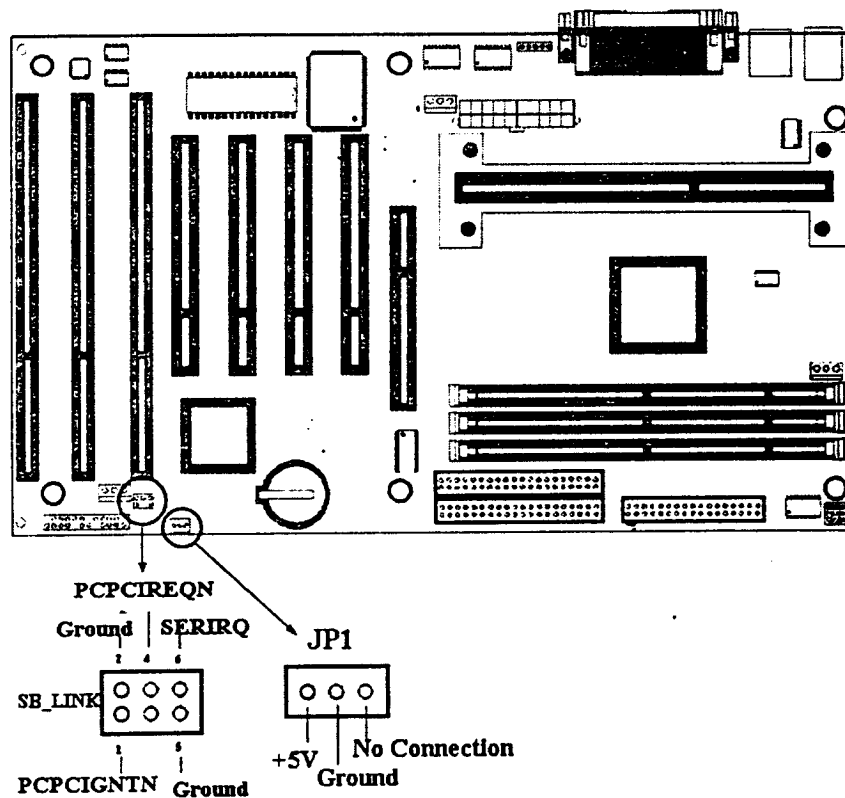


JIR1 IrDA Connector



2.4.4 Wake-on-LAN Connector (3-pin JP1)

The JP1 connector powers up the system when a wakeup packet or signal is received from the network. This feature requires the Wake up on LAN function in BIOS is set to Enabled and that your system has an ATX power supply with at least 720mA +5V standby power.

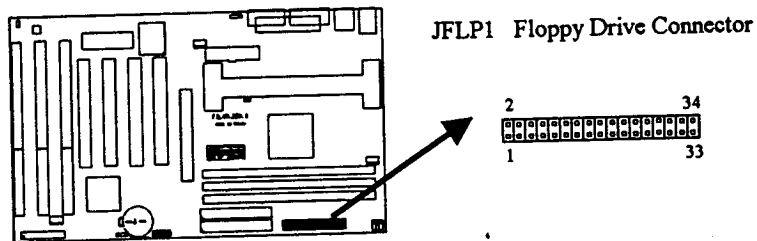


2.4.5 Creative's SB_LINK Sound Connector (6-pin SB_LINK)

The SB_LINK serves as a bridge between the mainboard and Creative's PCI sound card. This connector delivers Sound Blaster 16 compatibility for real-mode DOS games.

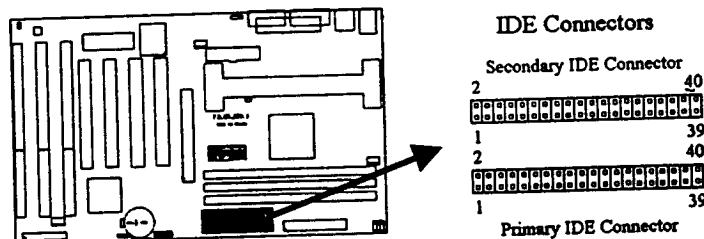
2.4.6 Floppy Disk Drive Connector (34-pin JFLP1)

This connector supports the provided floppy disk drive ribbon cable. Orient the red stripe to pin 1



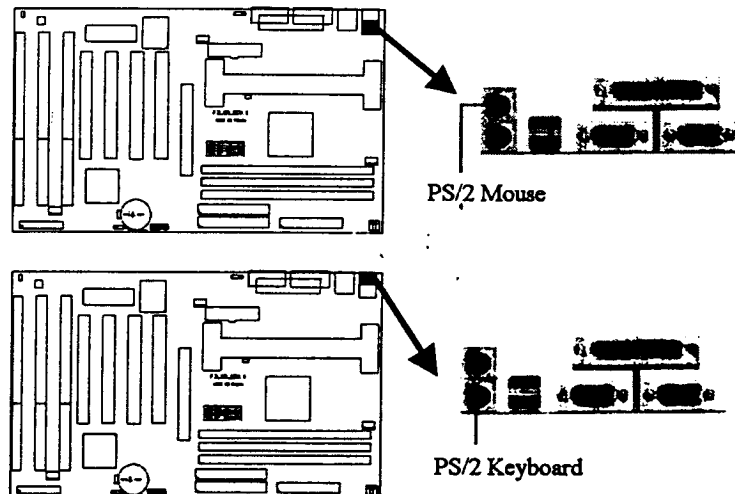
2.4.7 Primary/Secondary IDE Connector (Two 40-pin IDE)

These connectors support the provided IDE hard disk ribbon cable. Connect your first IDE hard disk to master mode of the primary channel. If you have second IDE device to install in your system, connect it as slave mode on the same channel, and the third and fourth device can be connected on secondary channel as master and slave mode respectively.



PS/2 Mouse Port (6-pin Mini-Din JMOUSE1)

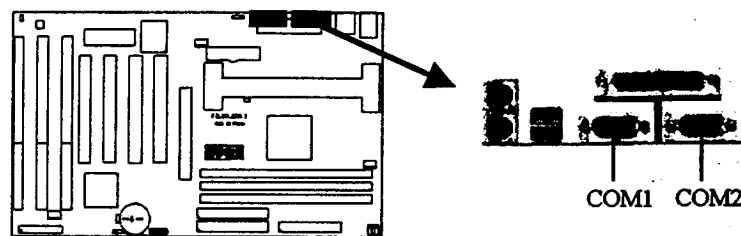
The system will direct IRQ12 to the PS/2 mouse.



2.4.8 PS/2 Keyboard Connector (6-pin Mini-Din JKB1)

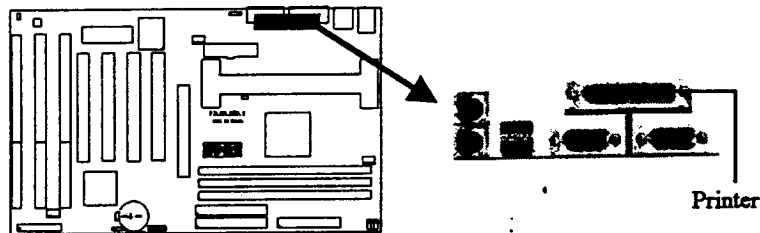
This connection is for a standard keyboard using a PS/2 plug. You may use a Din to Mini-Din adapter on standard AT keyboards.

2.4.9 Serial Port (Two 9-pin D-type JCOM)



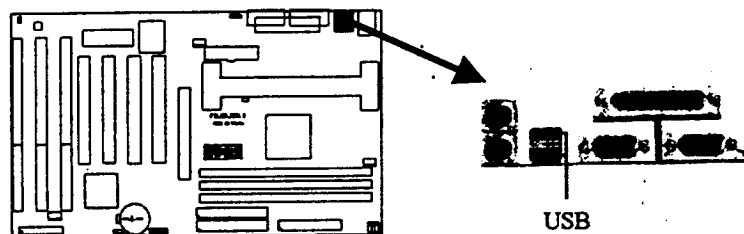
2.4.10 Printer Port (25-pin D-type JPRT1)

You can enable the parallel port and choose the IRQ through the "Onboard Parallel Port" setting in Integrated Peripherals of the COMS SETUP UTILITY.



2.4.11 USB Connectors (Two 4-pin USB)

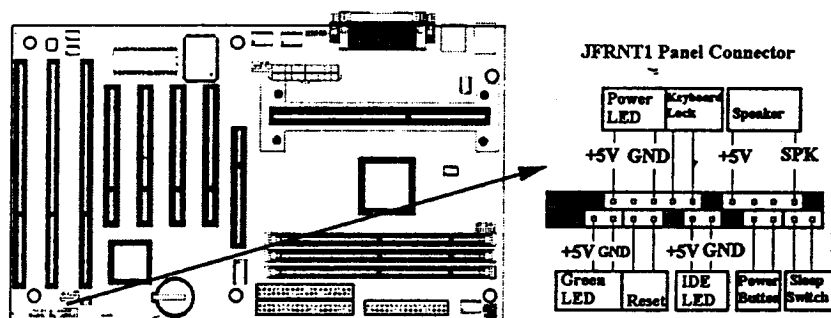
You can attach USB devices to the USB connector.



2.4.12 Panel Connection (28-pin JFRNT1)

JFRNT1 Connector	Function
GREENLED	Suspend Mode LED
PWRLED	Power LED
KEYLK	Keylock Switch
SPKR	Speaker
RESET	Reset Switch
IDELED	HDD LED
PWRBNT	ATX Power Button Connector
SMISW	Sleep Switch

WARNING: To avoid the system from failing, turn off the power before connecting any devices to the system.



Chapter 3. BIOS Setup

3.1 CMOS Setup Utility

To activate CMOS Setup, press <DEL> key immediately after you turn on the system. The following message "Press DEL to enter SETUP" should appear in the lower left hand corner of your screen.

When you enter the CMOS Setup Utility, the Main Menu will be displayed (Figure 3-1). You can use arrow keys to select your function, press <Enter> key to accept the selection and enter the sub-menu.

Figure 3-1. CMOS Setup Utility Main Screen

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

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

3.2 Standard CMOS Setup

With the sub-menu (**Figure 3-2**) , you can setup the; system date, system time, hard and floppy drive type, and display adapter type. Please refer to your equipment specification when changing the setup. Use arrow keys to highlight items, and use <PageUp>, <PageDown>, <+>, or <-> keys to scroll through the available options.

Figure 3-2. Standard CMOS Setup Screen

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

Date (mm:dd:yy) : Wed, Dec 10 1997	
Time(hh:mm:ss) : 17:52:00	
HARD DISKS	TYPE SIZE CYLS HEAD PRECOMP LANDZ SECTOR MODE
Primary Master : Auto	0 0 0 0 0 0 0 AUTO
Primary Slave : Auto	0 0 0 0 0 0 0 AUTO
Secondary Master : Auto	0 0 0 0 0 0 0 AUTO
Secondary Slave : Auto	0 0 0 0 0 0 0 AUTO
Drive A : 1.44M, 3.5in.	
Drive B : None	
Video : EGA / VGA	
Halt On : All Errors	
Base Memory : 640K Extended Memory : 31744K Other Memory : 384K Total Memory : 32768K	
ESC : Quit ↑ ↓ → ← : Select Item PU / PD / + / - : Modify	
F1 : Help (Shift) F2 : Change Color	

3.2.1 Date

To assign the system date, the format is "mm.dd.yy". The input range for the Month is 1-12. Range for Date is 1-31. Range for Year is 1994-2079. System BIOS will calculate the day of the week automatically.

3.2.2 Time

To assign the system time, the format is "hh:mm:ss". The setting is in military time. When entering 2:34pm enter "14:34:00".

3.2.3 Hard Disks Setting

The BIOS supports Dual-Channel PIO and PCI Bus Master IDE ports. Each port supports one master and one slave hard drive. You can use <PageUp> or <PageDown> key to change hard drive type. Incorrect setting may result in boot up error or system hang.

If your hard disk drive is not listed, you can select Type "USER" to define your own drive manually. We recommend that you select Type "AUTO" for all drives. The BIOS will auto-detect the hard disk drive and CD-ROM drive at the POST stage.

If your hard disk drive is a SCSI device, please select "None" for your hard drive setting.

3.2.4 Floppy Drives A&B Setting

Select your floppy disk drive type. Options are 360KB (5.25") , 720KB (3.5") , 1.2MB (5.25") , 1.44MB (3.5") , 2.88MB (3.5") .

3.2.5 Video Display Adapter Setting

Select the display adapter type for your system. Options are EGA/VGA, MONO, CGA40 and CGA80.

3.2.6 Halt On

This function allows the system to halt when an error is detected during Power-On Self-Test.

3.3 BIOS Features Setup

The sub-menu (Figure 3-3) includes all AWARD enhanced functions. The correct setting can enhance boot up efficiency. You can assign system speed, setup sequence, typematic and system password setting. You can enter <F1> key for help on highlighted topics. If you want to restore values before the changes you just made, press <F5> key. If you want to restore default value, press <F6> or <F7> key.

Figure 3-3. BIOS FEATURES SETUP SCREEN

ROM PCI / ISA BIOS (XXXXXXXXXX) BIOS FEATURES SETUP AWARD SOFTWARE, INC.			
Virus Warning	: Disabled	Video BIOS Shadow	: Enabled
CPU Internal Cache	: Enabled	C8000-CBFFF Shadow	: Disabled
External Cache	: Enabled	CC000-CFFFF Shadow	: Disabled
CPU L2 Cache ECC Checking	: Enabled	D0000-D3FFF Shadow	: Disabled
Quick Power On Self Test	: Enabled	D4000-D7FFF Shadow	: Disabled
Boot Sequence	: C, A, SCSI	D8000-DBFFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	DC000-DFFFF Shadow	: Disabled
Boot Up Floppy Seek	: Disabled		
Boot Up Numlock Status	: On		
Boot Up System Speed	: High		
Gate A20 Option	: Fast		
Typematic Rate Setting	: Disabled		
Typematic Rate (Chars/Sec)	: 6		
Typematic Delay (Msec)	: 250		
Security Option	: Setup	ESC : Quit	↑ ↓ → ← : Select Item
PCI/VGA Palette Snoop	: Disabled	F1 : Help	PU/PD/+- : Modify
OS Select For DRAM > 64MB	: Non-OS2	F5 : Old Values (Shift) F2 : Color	
Report No FDD For WIN 95	: Yes	F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

3.3.1 Virus Warning

When enabled, the BIOS will monitor the boot sector and the partition table on the hard drive for any attempt to modify. If an attempt is detected, the BIOS will halt the system and prompt the warning message. Select "Disabled" if you are installing a new operating system.

3.3.2 CPU Internal/External Cache

These options are to enable or disable CPU Internal (L1) Cache, or External (L2) Cache.

3.3.3 CPU L2 Cache ECC Checking

Select "Enabled" to enable CPU L2 Cache ECC Checking.
Select "Disabled" to disable CPU L2 Cache ECC Checking.

3.3.4 Quick Power On Self Test

Select "Enabled" to speed up time required to complete Power-On Self-Test.

3.3.5 Boot Sequence

This option allows user to assign boot sequence of the system. Available options are A, C, D, E, F, CD-ROM, SCSI and LS120/ZIP.

3.3.6 Swap Floppy Drive

When enabled, physical drive A will be assigned to logical drive B, and physical drive B will be assigned to logical drive A.

3.3.7 Boot Up Floppy Seek

The system will detect and verify operation of the floppy drive type.

3.3.8 Boot Up Numlock Status

The option allows the <NumLock> key to be activated after system boot up.

3.3.9 Boot Up System Speed

This option selects system boot up speed.

3.3.10 Typematic Rate Setting

Select "Enabled" to configure "Typematic Rate" and "Typematic Delay" functions.

3.3.11 Typematic Rate

Use this option to set the rate at which a character keeps repeating while you hold down a key.

3.3.12 Typematic Delay

Select "Enabled" to set the length of delay before key strokes to repeat. Available options are "250", "500", "750", and "1000".

3.3.13 Security Option

You can select whether the password is required every time the system boots or only when you enter the Setup. You can assign "Supervisor Password" and "User Password" in the main CMOS Setup Utility Screen.

3.3.14 PCI/VGA Palette Snoop

Enable this option to correct screen color shifts, when there is a combination of VGA cards, accelerator cards, or MPEG cards present.

3.3.15 OS Select for DRAM > 64MB

If you are using OS/2 operating system and installed memory is larger than 64MB. You need to have the setting in the enable mode.

3.3.16 Video BIOS Shadow

Video shadow copies BIOS code from slower ROM to faster RAM. BIOS can then execute from RAM.

3.3.17 C8000-CBFFF /DC000-DFFFF Shadow

Optional firmware will be copied from ROM to RAM. When this option is enabled.

3.4 Chipset Features Setup

These settings are intended for the Chipset function on the motherboard. Fine tuning these options, enhances the performance of the system.

Figure 3.4 CHIPSET FEATURES SETUP SCREEN

ROM PCI / ISA BIOS (XXXXXXXXXX) CHIPSET FEATURES SETUP AWARD SOFTWARE, INC.			
Auto Configuration	: Enabled	CPU Host Clock	: AUTO
EDO DRAM Speed Selection	: 60ns	CPU Warning Temperature	: 50° C/122° F
EDO CAS# MA Wait State	: 2	Current CPU Temperature	: 36° C/96° F
EDO RAS# Wait State	: 2	Current System Temp.	: 26° C/78° F
SDRAM RAS-to-CAS Delay	: 3	Current PowerFAN Speed	: 0 RPM
SDRAM RAS Precharge Time	: 3	Current ChassisFAN Speed	: 0 RPM
SDRAM CAS latency Time	: 3	Current CPUFAN Speed	: 4017 RPM
SDRAM Precharge Control	: Enabled	Vcore(V): 2.73V	Vtt(V) : 1.47V
DRAM Data Integrity Mode	: Non-ECC	Vio(V) : 3.32V	Vcc(V) : 4.91V
System BIOS Cacheable	: Enabled	+12V : 12.09V	-12V : -12.15V
Video BIOS Cacheable	: Enabled	- 5V : - 5.09V	
Video RAM Cacheable	: Enabled	ESC : Quit	↑ ↓ → ←: Select Item
8 Bit I/O Recovery Time	: 1	F1 : Help	PU/PD/+/-: Modify
16 Bit I/O Recovery Time	: 1	F5 : Old Values	(Shift) F2 : Color
Memory Hole At 15M-16M	: Disabled	F6 : Load BIOS Defaults	
Passive Release	: Enabled	F7 : Load Setup Defaults	
Delayed Transaction	: Disabled		
AGP Aperture Size (MB)	: 64		

3.4.1 Auto Configuration

The optimum value for the chipset and CPU will be automatically loaded when enabled.

3.4.2 EDO DRAM Speed Selection

This option must match the EDO memory speed. If the installed memory is 60ns type, you should set it to "60".

3.4.3 SDRAM RAS-to-CAS Delay

These are timing of SDRAM CAS Latency and RAS to CAS Delay, calculated by clocks. They are important parameters affects SDRAM performance.

3.4.4 SDRAM RAS Precharge Time

The RAS Recharge means the timing to inactive RAS and the timing for DRAM to do Rcharge before next RAS can be issued.

3.4.5 DRAM Data Integrity Mode

The ECC algorithm has the ability to detect double bit error and automatically correct single bit error.

3.4.6 System BIOS Cacheable

Allows the system BIOS to be cached for faster system performance.

3.4.7 Video BIOS Cacheable

Allows the video BIOS to be cached for faster video performance.

3.4.8 Video RAM Cacheable

This item lets you cache Video RAM A000 and B000.

3.4.9 8 Bit I/O Recovery Time

This option specifies the length of a delay inserted between consecutive 8-bit I/O operations.

3.4.10 16 Bit I/O Recovery Time

This option specifies the length of a delay inserted between consecutive 16-bit I/O operations.

3.4.11 Memory Hole At 15M-16M

Enabling this feature reserves 15MB to 16MB memory address space to ISA expansion cards that specifically require this setting. This makes the memory from 15MB and up unavailable to the system. Expansion cards can only access memory up to 16MB.

3.4.12 Passive Release

This function is used to meet the latency of the ISA bus master. Try to enable or disable it, if you have ISA card compatibility problem.

3.4.13 Delayed Transaction

This function is used to meet the latency of PCI cycles to from ISA bus. Try to enable or disable it, if you have ISA card compatibility problem.

3.4.14 AGP Aperture Size (MB)

Choose 4, 8, 16, 32, 64, 128, 256MB. Memory-mapped, graphics data structures can reside in the Graphics Aperture.

3.4.15 CPU Host Clock

Default is AUTO. Choose AUTO, 66, 75, 83, 100, 103 or 112Mhz for the external frequency of your CPU. You can select AUTO, 66, 75 or 83Mhz if your CPU is 66Mhz and select AUTO, 100, 103 or 112Mhz if the CPU is 100Mhz. The AUTO, 75, 83, 103 and 112Mhz frequency are optional.

The frequency mapping table of the elements:

Ext. frequency	AGP	PCI	ISA	DIMM
66Mhz	66Mhz	33Mhz	8.33Mhz	66Mhz
75Mhz	75Mhz	37.5Mhz	8.33Mhz	75Mhz
83Mhz	83Mhz	41.6Mhz	8.33Mhz	83Mhz
100Mhz	66Mhz	33Mhz	8.33Mhz	100Mhz
103Mhz	68.6Mhz	34.3Mhz	8.33Mhz	103Mhz
112Mhz	74.6Mhz	37.3Mhz	8.33Mhz	112Mhz

Notice:

The 75, 83, 103 and 112Mhz frequency are over specification.

You must install 8ns or faster DIMM on board if you set 103 or 112Mhz as external frequency.

Warning: Over specification operations are not recommended.

3.4.16 Current System & CPU Temperature (xx° C/xx° F)

The onboard hardware monitor is able to detect the temperatures of motherboard and CPU. These values refresh upon any key entry. The function is optional.

3.4.17 Current Power, Chassis & CPU FAN Speed (xxxxRPM)

The onboard hardware monitor is able to detect the power supply fan speed, chassis fan speed, CPU fan speed in Rotations Per Minute (RPM). These values refresh upon any key entry in the BIOS setup screen. The function is optional.

3.4.18 Vcore, Vtt, Vio, Vcc, +12V, -12V & -5V (xx.xxV)

The onboard hardware monitor is able to detect the voltage output by the voltage regulators. These values refresh upon any key entry. The function is optional.

3.5 Power Management Setup

Power management decreases power usage under the pre-defined standby time range.

Figure 3-5. POWER MANAGEMENT SETUP SCREEN

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

Power Management	: Disabled	** Reload Global Timer Events **	
PM Control by APM	: Yes	IRQ[3-7, 9-15], NMI	: Disabled
Video Off Method	: V/H SYNC+Blank	Primary IDE 0	: Disabled
Video Off After	: Standby	Primary IDE 1	: Disabled
MODEM Use IRQ	: 3	Secondary IDE 0	: Disabled
Doze Mode	: Disabled	Secondary IDE 1	: Disabled
Standby Mode	: Disabled	Floppy Disk	: Disabled
Suspend Mode	: Disabled	Serial Port	: Enabled
HDD Power Down	: Disabled	Parallel Port	: Disabled
Throttle Duty Cycle	: 62.5%		
VGA Active Monitor	: Enabled		
Soft-off by PWR-BTTN	: Instant-off		
CPUFAN off In Suspend	: Enabled		
Resume by Ring	: Disabled	ESC : Quit	↑ ↓ → ← : Select Item
Resume by Alarm	: Disabled	F1 : Help	PU/PD+/- : Modify
		F5 : Old Values	(Shift) F2 : Color
Wake up on LAN	: Disabled	F6 : Load BIOS Defaults	
IRQ 8 Break Suspend	: Disabled	F7 : Load Setup Defaults	

3.5.1 Power Management

Disable	Disable Power Management.
Mini Saving	System starts power saving function when the inactivity period exceeds 1 hour.
Max Saving	System starts power saving function when the inactivity period exceeds 1 min.
User Defined	Allows user to define the inactivity period before power saving function activates,

3.5.2 PM Control by APM

Select "Yes" if your system has Advanced Power Management (APM) .

3.5.3 Video Off Method

This field defines the video off features. The following options are available: DPMS OFF, DPMS Reduce ON, Blank Screen, V/H SYNC+Blank, DPMS Standby, and DPMS Suspend. The DPMS (Display Power Management System) features allow the BIOS to control the video display card if it supports the DPMS feature.

3.5.4 Video Off After

This option allows your monitor to blank after your system went into Doze, Standby or Suspend mode. You can elect to not blank screen by select "N/A". Default value is "Standby".

3.5.5 Doze Mode

When system is inactive after the predefined time limit, system performance will drop down. This is the first level of Power Management.

3.5.6 Standby Mode

System turns off the video signal and the fixed drives. This is the second level of Power Management.

3.5.7 Suspend Mode

System further shuts down all devices except for CPU itself. This is the third level of Power Management.

3.5.8 HDD Power Down

This instructs hard drives to shut off while in the Power Management modes.

3.5.9 VGA Active Monitor

To enable or disable the detection of VGA activity for power down state transition.

3.5.10 Soft-off by PWR-BTTN

When set to "Delay 4 Sec.", the ATX switch can be used as a normal system power-off button when pressed for less than 4 seconds. "Instant" disables the ATX switch function when the button is pressed under 4 seconds.

3.5.11 Resume by Ring

This option lets you specify enable or disable Modem Wake Up function. The function of power on through modem when system is off.
To select "Enabled" : To let the system to enter the environment of DOS or Windows 95 OS before system is power off. As long as there are any message through the Modem to enter the System during system is power off. The system will enable power on function.

3.5.12 Resume by Alarm

Set this option to enable or disable the RTC Alarm to Wake Up the system which is set at soft Off.

3.5.13 Wake up on LAN

This allows you to remotely power up your system through your network by sending a wake-up frame or signal. With this feature, you can remotely upload/download data to/from systems during off-peak hours. Set to Enabled to set this feature.

3.5.14 Date (of Month) Alarm, Time (hh:mm:ss) Alarm

Set these options to specify the RTC Alarm time on Date / Hour / Minute / Second.

3.5.15 IRQ 8 Break Suspend

To enable or disable the detection of IRQ 8 (RTC) event for power down state transition.

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

To enable or disable the detection of IRQ 3-7, IRQ 9-15 or NMI interrupt events for power down state transition.

3.5.17 Primary/Secondary IDE 0/1, Floppy Disk, Serial & Parallel Port

These items enable or disable the detection of IDE, floppy, serial and parallel port activities for power down state transition. Actually it detects the read/write to/from I/O port.

3.6 PNP/PCI Configuration Setup

Figure 3.6 PNP/PCI CONFIGURATION SETUP

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

PNP OS Installed	: No	Used MEM base addr	: N/A
Resources Controlled By	: Manual	Used MEM Length	: 8K
Reset Configuration Date	: Disabled		
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		
DMA-3 assigned to	: PCI/ISA PnP		
DMA-5 assigned to	: PCI/ISA PnP		
DMA-6 assigned to	: PCI/ISA PnP		
DMA-7 assigned to	: PCI/ISA PnP		

ESC : Quit ↑ ↓ → ← : Select Item
F1 : Help PU/PD/+- : Modify
F5 : Old Values (Shift) F2 : Color
F6 : Load BIOS Defaults
F7 : Load Setup Defaults

3.6.1 PNP OS Installed

This field allows you to use a Plug-and-Play (PnP) operating system. Please set it as "No" if the operating system has no PnP function or to avoid reassigning the IRQs by the operating system.

3.6.2 Resources Controlled By

Default setting is "Auto". This setting allows the BIOS to self detect setting and Plug-and-Play devices during start up. The user can select and configure IRQs under "Manual" mode.

3.6.3 Reset Configuration Data

In case a conflict occurs after you assign the IRQs or after you configure your system, you can enable this function to allow your system to automatically reset your configuration and reassign the IRQs, DMAs, and I/O address.

3.6.4 IRQ-xx assigned to

If your ISA card is not PnP compatible and requires a special IRQ to support its function, set the selected IRQ-x assigned to "Legacy ISA". This setting informs the PnP BIOS to reserve the selected IRQ for the installed legacy ISA card.

3.6.5 DMA-x assigned to

If your ISA card is not PnP compatible and requires a special DMA channel to support its function, set the selected DMA channel to "Legacy ISA". This setting informs the PnP BIOS to reserve the selected DMA channel for the installed legacy ISA card.

3.6.6 Used MEM base addr

This item, in conjunction with the "Used MEM Length", lets you set a memory space for non-PnP compatible ISA card.

3.7 Integrated Peripherals

You can control Input and Output functions from this screen.

Figure 3-7 Integrated Peripherals

ROM PCI / ISA BIOS (XXXXXXXXXX) INTEGRATED PERIPHERALS AWARD SOFTWARE, INC.			
IDE HDD Block Mode	: Enabled	Onboard Parallel Port	: 378/IRQ7
IDE Primary Master PIO	: Auto	Parallel Port Mode	: ECP + EPP
IDE Primary Slave PIO	: Auto	ECP Mode Use DMA	: 3
IDE Secondary Master PIO	: Auto	EPP Mode Select	: EPP1.9
IDE Secondary Slave PIO	: Auto		
IDE Primary Master UDMA	: Auto		
IDE Primary Slave UDMA	: Auto		
IDE Secondary Master UDMA	: Auto		
IDE Secondary Slave UDMA	: Auto		
On-Chip Primary PCI IDE	: Enabled	ESC : Quit	↑ ↓ → ← : Select Item
On-Chip Secondary PCI IDE	: Enabled	F1 : Help	PU/PD/+/- : Modify
USB Keyboard Support	: Disabled	F5 : Old Values	(Shift) F2 : Color
Init Display First	: AGP	F6 : Load BIOS Defaults	
KBC input Clock	: 8MHz	F7 : Load Setup Defaults	
Onboard FDC Controller	: Enabled		
Onboard Serial Port 1	: 3F8/IRQ4		
Onboard Serial Port 2	: 2F8/IRQ3		
UART Mode Select	: Normal		

3.7.1 IDE HDD Block Mode

This feature enhances disk performance by allowing multisector data transfers and eliminates the interrupt handling time for each sector.

3.7.2 IDE Primary & Secondary Master/Slave PIO

These four PIO fields let you set a PIO mode (0-4) for each of four IDE devices. When under "Auto" mode, the system automatically set the best mode for each device

3.7.3 IDE Primary & Secondary Master/Slave UDMA

When set to "Auto" mode, the system will detect if the hard drive supports Ultra DMA mode.

3.7.4 On-Chip primary/Secondary PCI IDE

Select "Enabled" to activate each on-board IDE channel separately, Select "Disabled", if you install an add-on IDE Control card

3.7.5 USB Keyboard Support

This item lets you enable or disable the USB keyboard driver within the onboard BIOS.

3.7.6 Init Display First

Select "AGP" or "PCI Slot" for system to detect first when boot-up.

3.7.7 Onboard FDC Controller

Select "Enabled" to activate the on-board FDC
Select "Disabled" to activate an add-on FDC

3.7.8 Onboard Serial Port 1 & 2

Select an address and corresponding interrupt for the first/second serial port. The default value for the first serial port is "3F8/IRQ4" and the second serial port is "2F8/IRQ3".

3.7.9 UART Mode Select

Select to activate the Infrared transfer function.

3.7.10 Onboard Parallel Port

Select address and interrupt for the Parallel port.

3.7.11 Parallel Port Mode

Select an operating mode for the parallel port. Mode options are SPP, EPP, ECP and ECP+EPP.

3.7.12 ECP Mode Use DMA

Select a DMA channel if parallel port is set as "ECP" or "ECP+EPP".

3.8 Load BIOS Defaults

This loads the standard BIOS default values. To select, highlight it and press the <Enter> key. Then press the <Y> and <Enter> keys to confirm. Otherwise, press the <N> key to cancel.

3.9 Load Setup Defaults

This feature loads the setup default values from BIOS default table. To select, highlight it and press the <Enter> key. Then press the <Y> and <Enter> keys to confirm. Otherwise, press the <N> key to cancel.

3.10 Supervisor/User Password

You can assign, modify, or cancel password settings. To modify, highlight "Supervisor Password" or "User Password" and press the <Enter> key. The screen will prompt you ("Enter Password : "). Enter your password. The maximum size of the password is 8 characters. System will prompt you to reenter the password to verify. Remember the passwords are case sensitive.

If you want to remove the passwords, either delete passwords or press <Enter> when prompting for new password.

If you want it to require password upon initial system startup and upon entering the CMOS Setup Utility, you will need to change the selection of the (Security Option) under (BIOS FEATURES SETUP) to "System".

If the setting is "Setup", the system will only require the password you activate CMOS Setup Utility.

3.11 IDE HDD Auto Detection

If your system has an IDE hard drive, you can use this function to detect its parameters and enter them into the "Standard CMOS Setup" automatically. This routine only detects one set of parameters. If your hard disk is formatted using different parameters than those detected, you have to enter the parameters manually. If the parameters listed do not match the ones used to format the disk, the information on that disk will not be accessible. If the auto-detected parameters displayed do not match those that are used for your drive, ignore them. Type N to reject the values and enter the correct ones manually from the Standard CMOS Setup screen.

3.12 Exit CMOS Setup Utility

Press the <F10> key to save the setup and exit. Press <ESC> key to exit without saving. Either saving or not saving modifications, screen will prompt user to confirm, and system will reboot on exit.