

# **P2EXA**

## **Motherboard**

### **User's Manual**

**Product Name: P2EXA**  
**Manual Revision: English, 1.2**



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# Chapter 1. Introduction

## 1.1 Product Overview

Thank you for purchasing the **P2EXA** motherboard. This motherboard utilizes **Intel's** latest technology, namely **440EX 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 four sections. The first section is the introduction of this motherboard, the second section explains the proper procedure to setup the motherboard, the third section provides information on how to setup the CMOS ,  
And the fourth section is the installation of the sound driver.

## 1.2 Features

- ⊙ Support Desktop Management Interface (DMI) through BIOS.
- ⊙ Support Accelerated Graphics Port (AGP) cards for high performance.
- ⊙ Modem Remote Ring On.
- ⊙ 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 fan speed monitoring (optional).
- ⊙ Support Advanced Configuration Power Interface (ACPI).
- ⊙ BIOS Green feature function, and “Plug & Play” Flash ROM.
- ⊙ Sound on board.

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## 1.3 Specifications

- 
- CPU** : -Supports Intel Pentium II Processors 233~333 MHz and Celeron Processors.
- Chipset** : -Intel 440EX AGPset chipset
- DIMM** : -Supports 3.3V EDO or SDRAM in 2 168-pin banks, each bank consists of 1x168-pin 64-bit DIMM socket, which can support memory sizes of 8/16/32/64/128 MB modules.  
-Supports up to a maximum of 256 MB with SDRAM or 512 MB with EDO 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 V4.51 with built-in Anti-Virus, DMI support, and green function (Plug-and-Play BIOS)  
-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

**Sound** :

- ALS120 PnP Sound Chip
- Built-in 3D Sound Effect Processor
- Mixer functions
- Built-in ALSFM Synthesizer
- Enhanced Game/MIDI port
  - Full Duplex operation for simultaneous record and playback
  - 8-bit or 16-bit monaural/stereo digital audio from 4 KHz to 48 KHz
  - Supports speaker out/Line in/Microphone in connector

**Others** :

- Supports System Monitor function (optional)
- Supports Creative's Sound Blaster 16 compatibility for real-mode DOS games

**Expansion Slots** :

- Three 32-bit PCI expansion slots
- One 16-bit ISA expansion slot
- One 32-bit AGP expansion slot

**Operating System** :

- Supports Windows 95/98, Windows NT, MS-DOS . V6.22, OS/2, Novell, Unix, SCO UNIX.....

**Dimension** :

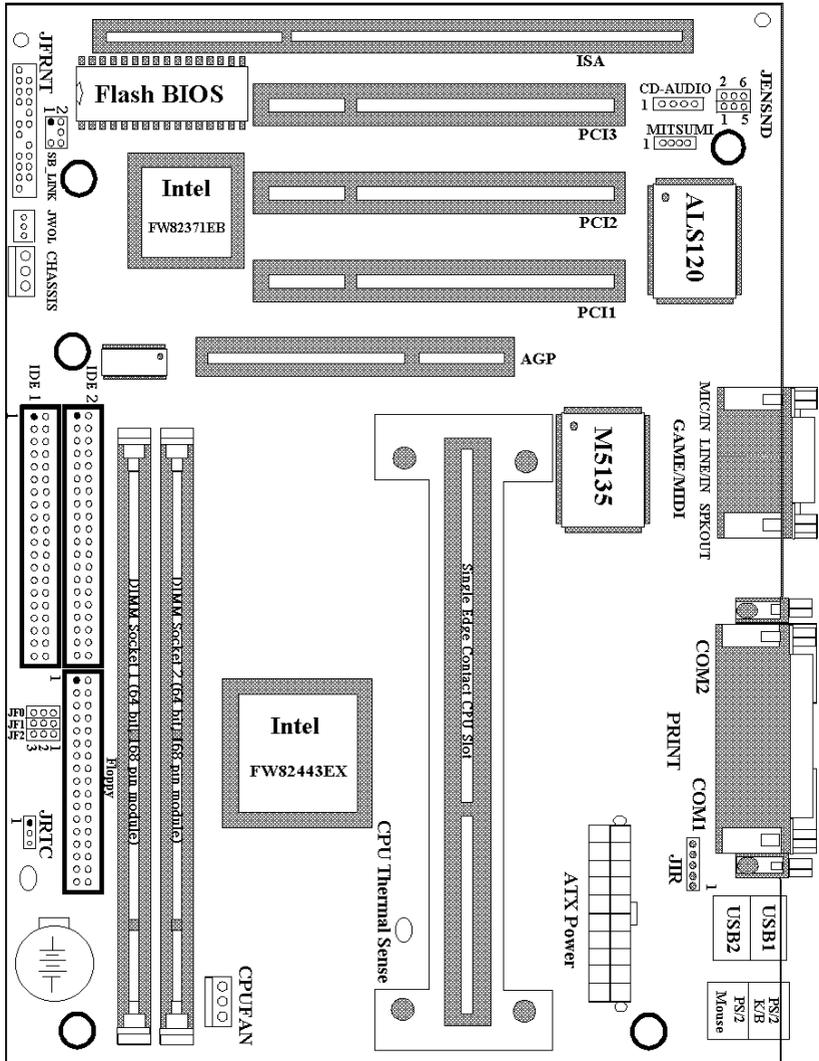
- 244 mm x 185 mm Micro ATX Form factor

## 1.4 Content

The **P2EXA** motherboard box contains the following items:

- One P2EXA Motherboard
- One IDE Ribbon Cable
- One Floppy Ribbon Cable
- One Retention mechanism
- One Driver CD
- User's Manual & Quick Installation Chart

## 1.5 Motherboard Layout



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# 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  
JRTC

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.

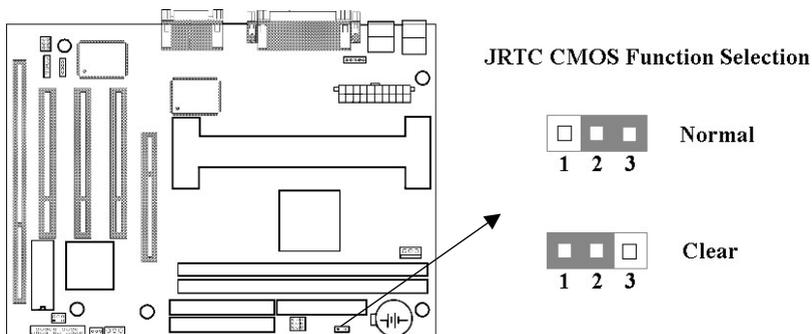
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## 2.1.2 Clearing the CMOS ( Yellow Jumper Caps )

JRTC: CMOS Function Selection

1-2 : Clear data

2-3 : Normal Operation ( Default Setting )



How to Clear the CMOS Setting

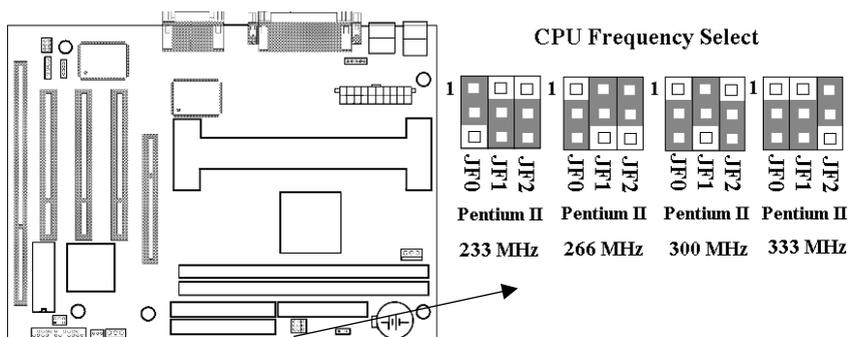
- ( 1 ) Turn off the power.
- ( 2 ) Remove ATX power cable from connector ATXPWR.
- ( 3 ) Remove Yellow Jumper Cap from JRTC ( 2-3 ) and put on JRTC ( 1-2 ) to remove the CMOS setting.
- ( 4 ) Remove Yellow Jumper Cap from JRTC ( 1-2 ) and put on JRTC ( 2-3 ) .
- ( 5 ) Connect ATX power cable back to connector ATXPWR.
- ( 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

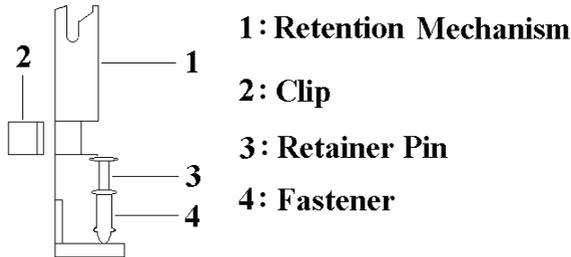
<i><b>CPU Model</b></i>	<i><b>Ratio</b></i>	<i><b>JF0</b></i>	<i><b>JF1</b></i>	<i><b>JF2</b></i>
Intel Pentium II 233	3.5x	1-2	2-3	2-3
Intel Pentium II 266	4.0x	2-3	1-2	1-2
Intel Pentium II 300	4.5x	2-3	1-2	2-3
Intel Pentium II 333	5.0x	2-3	2-3	1-2



## 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:

**Mount the Universal Retention Mechanism (URM) & Insert the Pentium II CPU:** ( The illustration is just for reference )



This URM was designed to accommodate 3 types of CPU Form Factor. ( SECC, SECCII & SEPP ). For Example : Pentium II & Celeron family.

Note : Please put a soft pad under M/B before the installation of URM.

Installation for SECC CPU :

- (1) Leave space below each mounting hole for the fastener to protrude through the hole.
- (2) Position URM on the M/B next to the slot1 connector.
- (3) Push down retainer pin into respective fastener to secure URM onto the M/B.
- (4) Push CPU into URM to contact with slot1.
- (5) Make sure latching portion of CPU engaged with windows ledge of URM.

Installation for SECC II or SEPP CPU :

- (1) Same as step (1) of SECC.
- (2) Same as step (2) of SECC.
- (3) Same as step (3) of SECC.
- (4) Same as step (4) of SECC.
- (5) Snap in 2 clips into side windows of URM to secure SEPP CPU.

If there is a fan on the CPU, Please plug in the fan cable to the three pin fan connector on the motherboard (CPUFAN).

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## 2.3 Installation of Memory

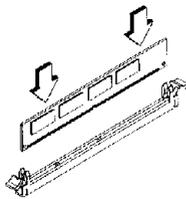
**P2EXA** motherboard has 2x168-pin 64-bit Dual Inline Memory Module ( DIMM ) sockets divided into 2 banks. You can install 3.3V Extended Data Output ( EDO ) or Unbuffered Synchronous DRAM ( SDRAM ) memory. This will increase the system reliability.

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

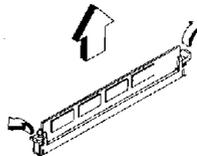
1. Before inserting the DIMM, make sure the pin1 of the DIMM matches with the pin1 on the DIMM socket.
2. Insert DIMM into the DIMM sockets at a 90-degree angle and press down.

### 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.



Install DIMM



Remove DIMM

### 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.

<i>DIMM Socket</i>	<i>DIMM Modules</i>
<b>DIMM1</b>	EDO/SDRAM 8, 16, 32, 64, 128MB
<b>DIMM2</b>	EDO/SDRAM 8, 16, 32, 64, 128MB

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## 2.4 I/O Connections/Panel Connections

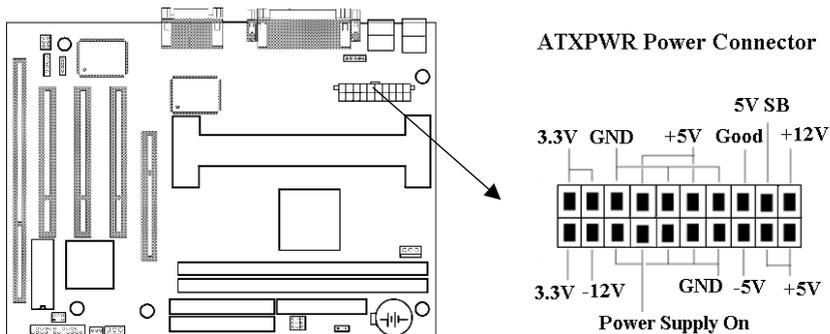
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## I/O Connections

ATXPWR	ATX Power Connector
CHASSIS	Chassis Fan Connector
CPUFAN	CPU Fan Connector
JWOL	Wake up on LAN connector
SB_LINK	for link with Creative's Sound Blaster 16
JIR	Infrared (IrDA) Connector ( Cable optional )
FLOPPY	Floppy Disk Drive Connector
IDE1, 2	Primary/ Secondary IDE Connectors
MOUSE	PS/2 Mouse Port
KB	PS/2 Keyboard Connector
COM1, 2	Serial Ports 1 & 2
PRINT	Printer Port
USB1, 2	USB Connector

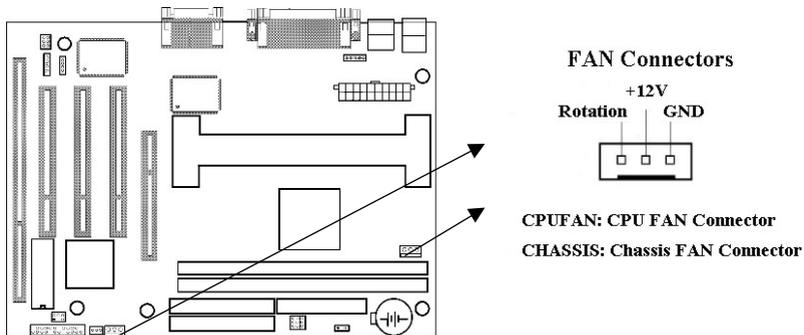
### 2.4.1 ATX Power Connector (20-pin ATXPWR)

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



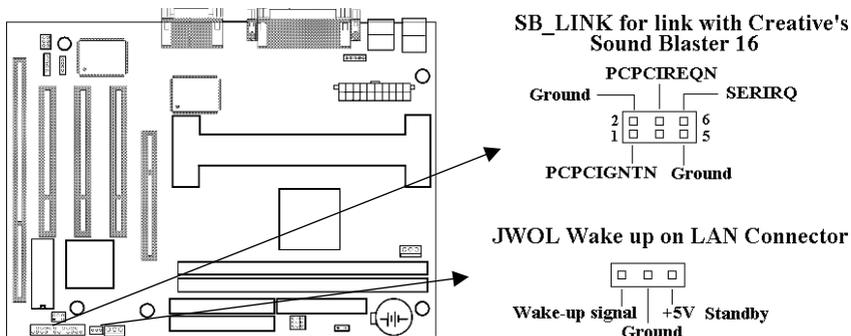
### 2.4.2 Chassis & CPU Fan Connectors (3-pin FAN)

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



### 2.4.3 Wake-up on LAN Connector (3-pin JWOL)

The 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.

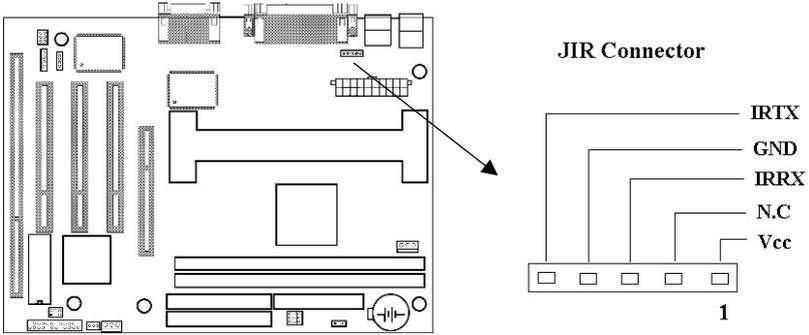


### 2.4.4 Creative's SB\_LINK Sound Connector (6-pin SB\_LINK)

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.

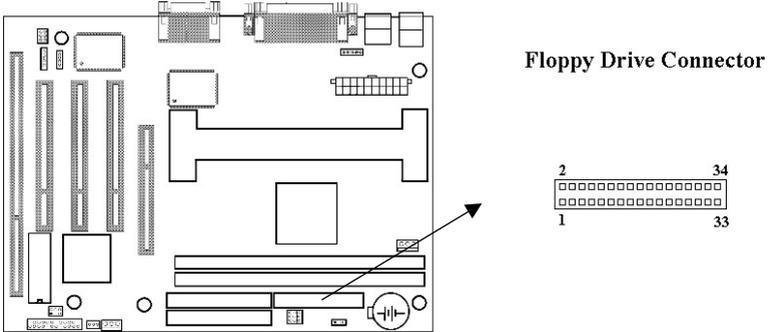
### 2.4.5 Infrared (IrDA) Connector (5-pin JIR)

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.



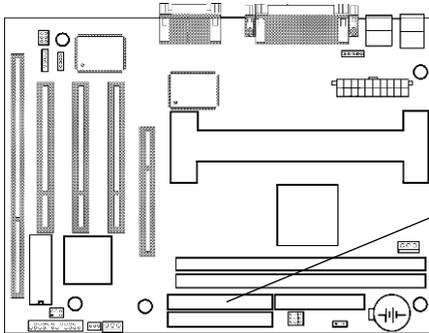
### 2.4.6 Floppy Disk Drive Connector (34-pin FLOPPY)

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.

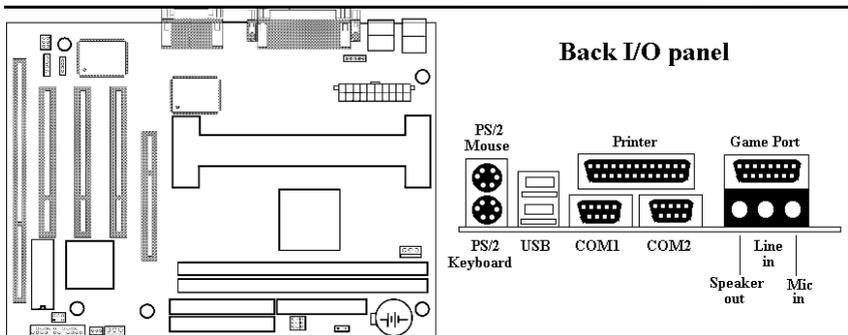


### IDE Drive Connector

#### Secondary IDE Connector



#### Primary IDE Connector



## 2.4.8 PS/2 Mouse Port (6-pin Mini-Din MOUSE)

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

## 2.4.9 PS/2 Keyboard Connector (6-pin Mini-Din KB)

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.

## 2.4.10 Serial Port (Two 9-pin D-type COM)

This connection is for serial mouse or any serial devices.

## 2.4.11 Printer Port (25-pin D-type PRINT)

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

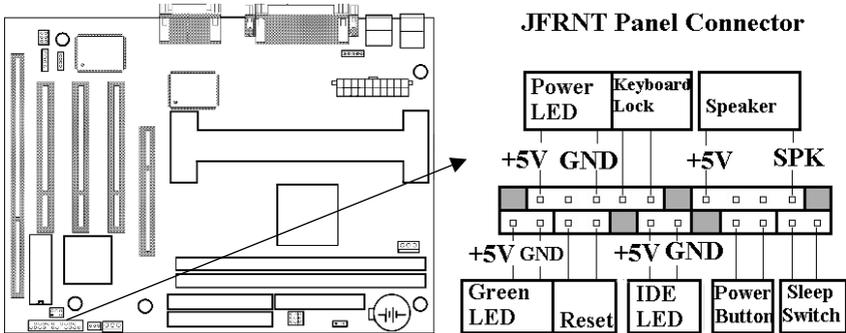
## 2.4.12 USB Connectors (Two 4-pin USB)

You can attach USB devices to the USB connector.

### 2.4.13 Panel Connection (28-pin JFRNT)

No	JFRNT Connector	Function
1	GREEN LED	Suspend Mode LED
2	RESET	Reset Switch
3	IDE LED	HDD LED
4	PWR BTN	ATX Power Button Connector
5	SMI S/W	Sleep Switch
6	PWR LED	Power LED
7	KEYLOCK	Keylock Switch
8	SPKR	Speaker

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



---

## 2.5 Input/Output Connections for Sound

### Input/Output Connections

SPKOUT	Speaker out Connector
LINE IN	Line in Connector
MIC/IN	Microphone in Connector
GAME/MIDI	Game/MIDI Connectors
MITSUMI	The Connector for Mitsumi CD-ROM audio cable
CD-AUDIO	The Connector for IDE/Sony CD-ROM audio cable

#### 2.5.1 Speaker Out Connector

The Speaker Out phonejack provides the built-in power amplifier outputs for the left and right stereo channels. The power amplifier has a minimum output power of two watts per channel with four ohm speakers.

#### 1.5.2 Line In Connector

The Line In phonejack is used to attach monaural or stereo devices such as a cassette, Digital Audio Tape, or Minidisc players for playback, mixing, or recording.

#### 1.5.3 Microphone In Connector

The Microphone In phonejack is used to attach a monaural microphone for live audio input for playback, mixing, or recording.

#### 1.5.4 Game/MIDI Port

The Game/MIDI Port connector is used to attach a joystick for game interaction or to attach an external MIDI device for playback, mixing, or recording.

#### 1.5.5 ATAPI IDE/Sony CD-ROM Audio (4-pin CD-AUDIO)

The ATAPI IDE/Sony CD-ROM Audio connector is used to connect the audio cable from either an ATAPI IDE or Sony CD-ROM drive for playback, mixing, and recording.

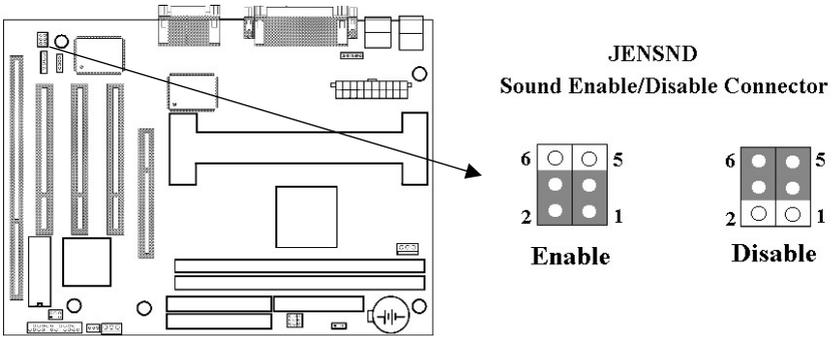
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### 1.5.6 Mitsumi CD-ROM Audio (4-pin MITSUMI)

The Mitsumi CD-ROM Audio connector is used to connect the audio cable from a Mitsumi CD-ROM drive for playback, mixing, or recording. Only one of the two CD-ROM audio connectors may be used at a time.

### 1.5.7 Enable/Disable Sound (6-pin JENSND)

This jumper let you to enable or disable the sound function.



---

# 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 (XXXXXXXX)
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							
<u>HARD DISKS</u>	<u>TYPE</u>	<u>SIZE</u>	<u>CYLS</u>	<u>HEAD</u>	<u>PRECOMP</u>	<u>LANDZ</u>	<u>SECTOR</u>
<u>MODE</u>							
Primary Master	: Auto	0	0	0	0	0	0 AUTO
Primary Slave	: Auto	0	0	0	0	0	0
AUTO							
Secondary Master	: Auto	0	0	0	0	0	0
AUTO							
Secondary Slave	: Auto	0	0	0	0	0	0
AUTO							
Drive A	: 1.44M , 3.5in.						
Drive B	: None						
Video	: EGA / VGA						
Halt On	: All Errors						
				<hr/> 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 (XXXXXXXX)			
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	: Enabled	D0000-D3FFF Shadow	: Disabled
Checking			
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 (XXXXXXXX)			
CHIPSET FEATURES SETUP			
AWARD SOFTWARE, INC.			
Auto Configuration	: Enabled	CPU Warning Temperature	: 50°C/122°F
DRAM Speed Selection	: 60ns	Current CPU Temperature	: 36°C/96°F
MA Wait State	: Fast	Current System Temperature	: 26°C/78°F
EDO RAS# To CAS# Delay	: 3	Current ChassisFAN Speed	: 0 RPM
EDO RAS# Precharge Time	: 3	Current CPUFAN Speed	: 4017 RPM
EDO DRAM Read Burst	: x333	Current Vcc (V)	: 5.02 V
EDO DRAM Write Burst	: x222	Current Vio (V)	: 3.50 V
CPU-To-PCI IDE Posting	: Enabled	Current 12V	: 12.34 V
System BIOS Cacheable	: Enabled	Current Vcore(V)	: 2.83 V
Video BIOS Cacheable	: Enabled		
Video RAM Cacheable	: Enabled		
8 Bit I/O Recovery Time	: 1		
16 Bit I/O Recovery Time	: 1		
Memory Hole At 15M-16M	: Disabled		
Passive Release	: Enabled	ESC : Quit	↑ ↓ → ← : Select Item
Delayed Transaction	: Disabled	F1 : Help	PU/PD/+/- : Modify
AGP Aperture Size (MB)	: 64	F5 : Old Values	(Shift) F2 : Color
SDRAM RAS-to-CAS Delay	: Slow	F6 : Load BIOS Defaults	
SDRAM RAS Precharge Time	: Slow		
SDRAM CAS latency Time	: 3	F7 : Load Setup Defaults	

### 3.4.1 Auto Configuration

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

### 3.4.2 DRAM Speed Selection

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

### 3.4.3 CPU-To-PCI IDE Posting

To enable or disable CPU to PCI IDE post write cycle Disable it, if you find any IDE compatibility problem.

---

### **3.4.4 System BIOS Cacheable**

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

### **3.4.5 Video BIOS Cacheable**

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

### **3.4.6 Video RAM Cacheable**

This item lets you cache Video RAM A000 and B000.

### **3.4.7 8 Bit I/O Recovery Time**

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

### **3.4.8 16 Bit I/O Recovery Time**

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

### **3.4.9 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.

### **3.4.10 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.

### **3.4.11 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.

---

### **3.4.12 AGP Aperture Size (MB)**

---

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

#### **3.4.13 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.

#### **3.4.14 SDRAM RAS Precharge Time**

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

#### **3.4.15 Current CPU & System 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.

#### **3.4.16 Current 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.

#### **3.4.17 Vcc, Vio, 12V, Vcore (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 (XXXXXXXXX)  
POWER MANAGEMENT SETUP  
AWARD SOFTWARE, INC.

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

### 3.5.1 ACPI Function

This item allows you to enable or disable the function of Advanced Configuration and Power Interface .

### 3.5.2 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,

### 3.5.3 PM Control by APM

---

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

### **3.5.4 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.

### **3.5.5 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".

### **3.5.6 Doze Mode**

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

### **3.5.7 Standby Mode**

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

### **3.5.8 Suspend Mode**

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

### **3.5.9 HDD Power Down**

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

### **3.5.10 VGA Active Monitor**

---

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

### **3.5.11 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.

### **3.5.12 Resume by Ring**

This option lets you specify enable or disable external 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 95/98 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.

### **3.5.13 Resume by Alarm**

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

### **3.5.14 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	PCI IDE IRQ Map To	: PCI-AUTO
Resources Controlled By	: Manual	Primary IDE INT#	: A
Reset Configuration Data	: Disabled	Secondary IDE INT#	: B
IRQ-3 assigned to	: PCI/ISA PnP	Used MEM base addr	: N/A
IRQ-4 assigned to	: PCI/ISA PnP	Used MEM Length	: 8K
IRQ-5 assigned to	: PCI/ISA PnP	Assign IRQ For USB	: Enabled
IRQ-7 assigned to	: PCI/ISA PnP		
IRQ-9 assigned to	: PCI/ISA PnP		
IRQ-10 assigned to	: PCI/ISA PnP		
IRQ-11 assigned to	: PCI/ISA PnP		
IRQ-12 assigned to	: PCI/ISA PnP		
IRQ-14 assigned to	: PCI/ISA PnP		
IRQ-15 assigned to	: PCI/ISA PnP		
DMA-0 assigned to	: PCI/ISA PnP		
DMA-1 assigned to	: PCI/ISA PnP		
		ESC : Quit	↑ ↓ → ← : Select Item
DMA-3 assigned to	: PCI/ISA PnP	F1 : Help	PU/PD/+/- : Modify
DMA-5 assigned to	: PCI/ISA PnP	F5 : Old Values	(Shift) F2 : Color
DMA-6 assigned to	: PCI/ISA PnP	F6 : Load BIOS Defaults	
DMA-7 assigned to	: PCI/ISA PnP	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 PCI IDE IRQ Map To**

Some old PCI IDE add-on cards are not fully PnP compatible. These cards require you to specify the slot in use to allow the BIOS to properly configure the PnP resources.

#### **3.6.7 Primary/Secondary IDE INT#**

These two items, in conjunction with item “PCI IDE IRQ Map To”, specify the IRQ routing of the primary or secondary channel of the PCI IDE add-on card.

#### **3.6.8 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.

#### **3.6.9 Assign IRQ For USB**

---

Default is Enabled. You can disable this item when you do not attach any USB devices on board and need extra IRQ for other device. The yellow exclamation mark will be shown in System/Device Manager under Windows 95/98 if you disable this item. This is a normal status.

### 3.7 Integrated Peripherals

You can control Input and Output functions from this screen.

**Figure 3-7** Integrated Peripherals

ROM PCI / ISA BIOS (XXXXXXXXX)  
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		
On-Chip Secondary PCI IDE	: Enabled		
USB Keyboard Support	: Disabled		
Init Display First	: AGP	ESC : Quit	↑ ↓ → ← : Select Item
KBC clock source	: 8MHz	F1 : Help	PU/PD/+/- : Modify
Onboard FDC Controller	: Enabled	F5 : Old Values (Shift)	F2 : Color
Onboard UART Port 1	: 3F8/IRQ4	F6 : Load BIOS Defaults	
Onboard UART Port 2	: 2F8/IRQ3	F7 : Load Setup Defaults	
UART2 Mode	: Normal		

#### 3.7.1 IDE HDD Block Mode

This feature enhances disk performance by allowing multi-sector 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**

This item lets the system to detect AGP or PCI-Slot first when startup.

### **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 UART 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 UART2 Mode**

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.

# Chapter 4. Sound Device Driver Installation

## 4.1 Windows 3.1

1. Start Windows 3.1.

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2. Insert the ALS120 CD Driver disk into the CD-ROM drive.
  3. Select [Run] from the Program Manager File menu and type X:\P2EXA\SNDOSWIN\SETUP on the command line. (X: is the drive where the CD Driver disk has been inserted)
  4. A Welcome dialog box will be appeared, Click [Next] to continue the installation.
  5. A Choose Destination Location dialog box will be appeared. Click [Next] in the Choose Destination dialog box to install the ALS120 sound driver to the default directory or click on Browse if you want to install to a different directory.
  6. Setup will automatically create a folder and icons for the sound application.
  7. A Modifying AUTOEXEC.BAT dialog box will appear and Click on [Next] to accept the default to “ Let Setup modify the AUTOEXEC.BAT. file”.
  8. A Configuration Panel dialog box will be appeared for the first time installation and please check each hardware settings and make changes according to hardware installed and also if you do not hear music at testing. Please disable the IDE CD-ROM option on the configuration panel at this time to let system to use the on board IDE1/IDE2 port.
  9. Click on [OK]. Setup will configure the hardware settings. Refer to the Setup Utility Program in the next chapter to configure your sound card.
  10. The configuration is complete.
  11. The “ MIDI Sequencer” dialog box may appear on screen when you want to play MIDI file. Please ignore this message and click the check box then click on [OK]. Windows 3.1 will play correctly with the default MIDI setup.

## 4.2 DOS

1. Insert the ALS120 CD Driver disk into CD-ROM drive.
2. If Windows 3.1 is running, exit the application.
2. Type X:\P2EXA\SNDOSWIN\DOSINST.EXE and press the Enter key. (X: is the driver where CD Driver disk has been inserted)
3. The Avance Sound Chip Installation Program screen will be displayed showing the following defaults:

Avance software copy to: C:\A3SOUND

System bootup drive: C:\

- To make changes to the defaults, select the parameter with the Up/Down Arrow keys and press the Enter key. Then change the parameter and press the Enter key again to accept the change.
  - When satisfied with the new parameters or to accept the defaults, select “accept the above” with the Up/Down Arrow keys and press the Enter key.
5. The installation of the Avance Logic software drivers will now begin.
  6. When all of the files are copied to the fixed disk, installation program will automatically update the autoexec.bat, saving copies of the original files with the extension “.als”, and the a3config.exe utility will automatically start. Use the instructions given in “Setup Utility Program” on the next page to set up the ALS120 sound card.
  7. The installation and setup are complete.

### 4.3 Windows 95

1. Please do not click the check box on ‘ Sound, MIDI, or Video Capture Card ‘ or ‘ Sound, Video and game controllers’ option on Windows 95 setup wizard dialog box when Windows 95 setup program is processing.
2. When Windows 95 is fully installed. Please click on Start and select Setting then going into Control Panel and choose the System icon . Under Device Manager , select the “ ?Other devices ” from the device list . Remove all of ‘ ?PnP Sound Chip’ devices then restart the system.
3. The ‘Update Device Driver Wizard’ dialog box will be appeared and will complete the installation of PnP Sound Chip. Click on [Next] .
4. Select the ‘Other Locations’ to load the sound driver.
5. Type X:\P2EXA\NDOSWIN in the Locations and Click [OK] . (X: is the drive where CD Driver disk has been inserted)
6. Windows 95 will automatically copy the needed files . Click on [Finish] to complete the step.
7. The ‘Insert Disk’ dialog box will be appeared on screen .Click on [OK].
8. The ‘Copying Files’ dialog box will be appeared on screen. Type X:\P2EXA\NDOSWIN in the Locations and Click [OK] . (X: is the drive where CD Driver disk has been inserted)
9. The installation is complete.

### 4.4 Windows 98

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1. When Windows 98 is fully installed. Please click on Start and select Setting then going into Control Panel and choose the System icon . Under Device Manager , select the ‘ ? Other devices ‘ from the device list . Remove all of ‘?PnP Sound Chip’ devices .
  2. Choose Add New Hardware icon from Control Panel. Click on [Next] twice.
  3. The wizard searches for new drivers for : PnP Sound Chip. Click on [Next] .
  4. Click the check box on Search for the best driver for your device and click on [Next] .
  5. Click the check box on CD-ROM drive and Specify a location then type **X:\P2EXA\SNDOSWIN** in the Locations .Click on [Next] . (X: is the drive where CD Driver disk has been inserted)
  6. Windows driver file search for the device: ALS120 Logical Device 0 Wave Audio Device . Click on [Next].
  7. Windows 98 will automatically copy the needed files . Click on [Finish] to complete the step.
  8. System will detect 4 Avance devices. Click on [Next] to finish installing devices.
  9. Click on [Finish] to complete the installation.
  10. Restart system to take new driver effect.

## 4.5 Windows 98

( The below installation are just for System Integrator to get the PC98 logo only . If you are not System Integrator and don't need the PC98 logo , please follow point 4.4 to load sound driver for Windows 98 )

1. When Windows 98 is fully installed. Please click on Start and select Setting then going into Control Panel and choose the System icon . Under Device Manager , select the ‘ ? Other devices ‘ from the device list . Remove all of ‘?PnP Sound Chip’ devices .
2. Choose Add New Hardware icon from Control Panel. Click on [Next] twice.
3. The wizard searches for new drivers for : PnP Sound Chip. Click on [Next] .
4. Click the check box on Search for the best driver for your device and click on [Next] .
5. Click the check box on CD-ROM drive and Specify a location then type **X:\P2EXA\SNWIN98** in the Locations .Click on [Next] . (X: is the drive where CD Driver disk has been inserted)
6. Windows driver file search for the device: Avance Wave Audio Device [WDM] . Click on [Next].

- 
7. Windows 98 will automatically copy the needed files . Click on [Finish] to complete the step.
  8. System will find new hardware and the Insert Disk dialog box is appeared. If system need the alswdm.cat file, please copy file from X:\P2EXA\SNWIN98. If system need the ksclockf.ax or msjstick.driv files, please load these drivers from the direcrory \WIN98 of Windows 98 CD Disk. Type X:\P2EXA\SNWIN98 in the Locations and click [OK] . (X: is the drive where CD Driver disk has been inserted)
  9. The Insert Disk dialog box will be appeared many times. Please type the correct path as the step 8.
  10. System will detect 4 Avance devices. Click on [Next] to finish installing devices.
  11. Click on [Finish] to complete the installation.
  12. Restart system to take new driver effect.

#### **4.6 Windows NT 4.0**

1. Insert the CD Driver disk into CD-ROM drive . Go to [Control Panel/Multimedia/Device/Add] and choose [OK] . Select 'Unlisted or Updated Driver' from the List of Drivers table. Click on [OK] .
2. Type X:\P2EXA\SNWINNT in the Install Driver dialog box and choose [OK].(X: is the drive where the CD Driver disk has been inserted)
3. Choose [OK] for 'Avance Logic, Inc. ALS100+/120'.
4. While installing, "Driver Exists" warning message will appear and ask whether to keep the old 'midimap.cfg' or install a new driver. Please select [New] to install a new driver or else MIDI will not function properly.
5. Configure proper I/O's and DMA's if necessary as they appear on screen.
6. Re-boot system before driver will take into effect.

---

## A3CONFIG.EXE utility

This utility is used to set up the ALS120 sound card. It is automatically started when the Avance Logic software drivers are first installed in a DOS or Windows 3.1 application. It should be re-run anytime the system hardware configuration is changed or a change to the ALS120 sound card configuration is desired. The `a3config.exe` utility resides in the directory into which the Avance Logic software drivers were stored.

To run the `a3config.exe` utility, perform the following:

1. If Windows 3.1 is running, exit the application and at the `C:\>` prompt, set the current directory to the directory containing the `a3config.exe` utility (A3SOUND was the default directory at installation time), type *`a3config.exe`*, and then press the Enter key to execute the utility.
2. The ALS120 Sound Chip Configuration Program screen will be displayed. Use the Tab, Space, Enter, Down Arrow, and ESC keys and/or the mouse to select and set options in menus, to move between menus, and to make and set changes to values.
3. In the Sound Chip Configuration Program menu, the SB16 configuration screen showing the I/O port, DMA, and IRQ settings will be displayed, and the default settings are: I/O Port: 220, DMA1: 1, DMA2:3 and IRQ: 5. Select and set any changes or accept the defaults.
4. In the Sound Chip Configuration Program menu, select "MPU401" to configure the external MIDI. The Enable/Disable box can be selected by using mouse or [space] key. If the external MIDI is enabled, the I/O port and IRQ settings will be displayed and can be changed by mouse or [down arrow] key. The default settings are: I/O Port: 330 and IRQ: 9. Select and set any changes or accept the defaults.
5. In the Sound Chip Configuration Program menu, disable "CD-ROM" option to let the system to use on board IDE1/IDE2 port .
6. In the Sound Chip Configuration Program menu, select "ADLIB" to configure the OPL3. The Enable/Disable box can be selected by using mouse or [space] key.
7. In the Sound Chip Configuration Program menu, select "Game Port" to configure the game port. The Enable/Disable box can be selected by using mouse or [space] key.

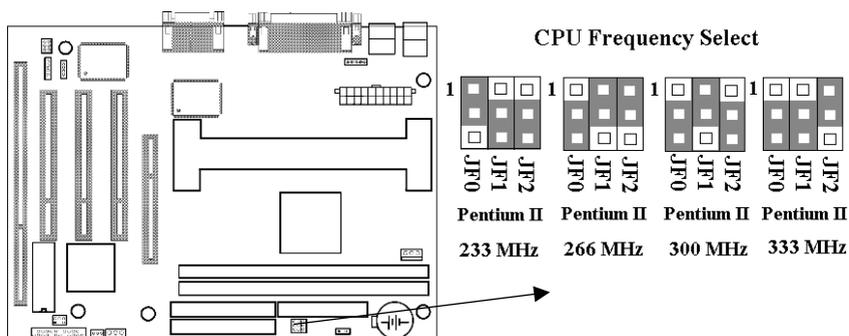
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8. In the Sound Chip Configuration Program menu, select “Set Volume”. The Setting Volume screen will be displayed. Make and set any changes or accept the existing settings and return to the Main Menu.
  9. In the Sound Chip Configuration Program menu, 8-Bit Sound/16-Bit Sound/FM Music box will be displayed. Select each box and verify the correct operation of the ALS120 sound card. Follow the instructions given for each mode. If the sound card does not operate correctly in any mode, reconfigure it by rerunning this procedure.
  10. When satisfied with the operation of the ALS120 sound card, select [OK] to exit the utility.

## **ALSRACK Player**

Install the ALSRACK player by running the setup.exe file from X:\P2EXA\SNDOSWIN (or \SNWIN98) directory (X: is the drive where CD Driver disk has been inserted). This will create the Avance Sound program Group with the ALSRACK utility icon. Please refer to the readme.txt file that in \SNDOSWIN (or \SNWIN98) directory about the structure and components of the player.

For your convenience, this chart lists all the CPUs supported by P2EXA and their corresponding jumper setting.

<b>CPU Model</b>	<b>Ratio</b>	<b>JF0</b>	<b>JF1</b>	<b>JF2</b>
Intel Pentium II 233	3.5x	1-2	2-3	2-3
Intel Pentium II 266	4.0x	2-3	1-2	1-2
Intel Pentium II 300	4.5x	2-3	1-2	2-3
Intel Pentium II 333	5.0x	2-3	2-3	1-2



### Panel Connection (28-pin JFRNT)

No	JFRNT Connector	Function
1	GREEN LED	Suspend Mode LED
2	RESET	Reset Switch
3	IDE LED	HDD LED
4	PWR BTN	ATX Power Button Connector
5	SMI S/W	Sleep Switch
6	PWR LED	Power LED
7	KEYLOCK	Keylock Switch
8	SPKR	Speaker

<b>CPU Model</b>	<b>Ratio</b>	<b>JF0</b>	<b>JF1</b>	<b>JF2</b>
Intel Pentium II 233	3.5x	1-2	2-3	2-3
Intel Pentium II 266	4.0x	2-3	1-2	1-2
Intel Pentium II 300	4.5x	2-3	1-2	2-3
Intel Pentium II 333	5.0x	2-3	2-3	1-2

