



Getting Started

BlasterBoard 128 V2

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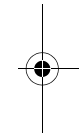
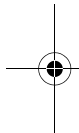
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The following sections contain notices for various countries:

CAUTION: This device is intended to be installed by the user in a CSA/TUV/UL certified/listed IBM AT or compatible personal computers in the manufacturer's defined operator access area. Check the equipment operating/installation manual and/or with the equipment manufacturer to verify/confirm if your equipment is suitable for user-installed application cards.

ATTENTION: Ce carte est destiné à être installé par l'utilisateur, dans un ordinateur compatible certifié CSA/TUV/UL ou listé IBM AT, à l'intérieur de la zone définie par le fabricant. Consulter le mode d'emploi ou le fabricant de l'appareil pour vérifier ou confirmer si l'utilisateur peut y installer lui-même des cartes périphériques.

Notice for the USA

FCC Part 15: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the 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, this notice is not a guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try one or more of the following measures:

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

CAUTION: To comply with the limits for the Class B digital device, pursuant to Part 15 of the FCC Rules, this device must be installed in computer equipment certified to comply with the Class B limits.

All cables used to connect the computer and peripherals must be shielded and grounded. Operation with non-certified computers or non-shielded cables may result in interference to radio or television reception.

Modifications

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the device.

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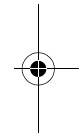
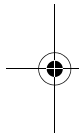
This apparatus complies with the Class "B" limits for radio interference as specified in the Canadian Department of Communications Radio Interference Regulations.

Cet appareil est conforme aux normes de CLASSE "B" d'interférence radio tel que spécifié par le Ministère Canadien des Communications dans les règlements d'interférence radio.

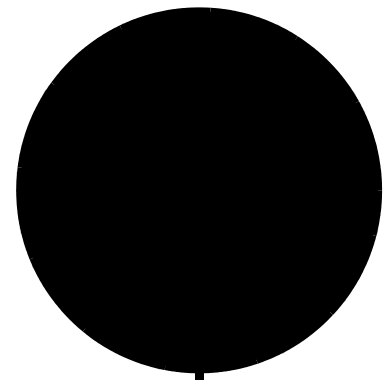
Compliance

This product conforms to the following Council Directive:

- ☐ Directive 89/336/EEC, 92/31/EEC (EMC)



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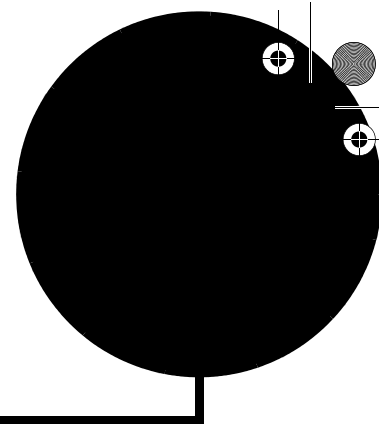
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Introduction

BlasterBoard 128 V2 is a SiS 620 100MHz high-performance motherboard based on the Slot 1 or S370 microprocessor, and provides Plug and Play for faster and easier CPU installation. BlasterBoard features highly flexible configurations and is fully IBM PC/AT compatible.

BlasterBoard uses a highly integrated Slot 1 chipset with 3D video built-in—a high-performance 64-bit 3D AGP graphics accelerator with 8MB frame buffer shared from system memory. It supports the PCI/ISA and Green standards, provides the Host/AGP bridge, and integrates all system control functions such as ACPI (Advanced Configuration and Power Interface). The ACPI provides more energy saving features for the OSPM(OS Direct Power Management) function.

BlasterBoard has, onboard, Creative Sound Blaster AudioPCI 128 to meet Multimedia PC Level II and III specification. It also has a built-in hardware monitor circuit for detecting abnormal CPU fan speed/temperature/voltage. The BlasterBoard BIOS provides Trend's ChipAway Virus to ensure the entire boot process is virus free.

Register
BlasterBoard online!

Double-click the Creative Product Registration icon on your Windows desktop to start the online registration process. Follow the onscreen instructions to complete the registration. When the registration application requests your BlasterBoard serial number, enter **S128-CDSTD-2-L3**.





Key Features

The advanced features of the BlasterBoard include:

- ☐ Supports Pentium® II 233~450 MHz, Celeron 266~433 MHz and Pentium III (Katmai New Instruction) 450~500 MHz CPUs
 - Supports both 66.6MHz and 100MHz FSB (Front Side Bus)
 - Provides CPU Plug and Play feature for faster and easier CPU installation
- ☐ Provides 3 DIMMs for SDRAM memory modules
 - Supports a maximum size of 768MB system memory
- ☐ Provides 3 PCI and 1 ISA slots
- ☐ Onboard 2 channel IDE,
 - Supports four IDE devices maximum
 - Supports PIO, Bus Master and Ultra DMA 33/66 operation modes
- ☐ Provides ATX power connectors and features of ATX power
 - Power Button/Suspend Switch and Keyboard Power On
 - Alarm Wake Up, Modem Wake Up and Wake On LAN
- ☐ Onboard 64-bit 3D AGP Graphics Accelerator
 - AGP 2.0 spec. compliant
 - Built-in 8-way/16-entry set associative GART cache for AGP
 - Maximum 8MB frame buffer share from system memory
 - High-resolution graphic modes up to 1600 x 1200
- ☐ Onboard Sound Blaster Audio PCI 128 specifications
 - 128-Voice Wave-table Synthesizer
 - Compatible to AC97 interface, M/S PC97 and PC98, and Multimedia PC Level II and III specifications
 - EAX support
 - Uses a single sharable PCI interrupt, PCI Bus Master for fast DMA
 - Supports DirectSound 3D®, DirectMusic, and A3D® API for 3D Positional Audio
 - DOS games compatibility
 - Supports MPU-401 Game/Midi port and legacy audio SB16
 - Supports multiple sample rate
 - Sounds are stored in main memory and Sound Library—over 4000






- Three stereo inputs and three mono inputs can be mixed to output stream
 - Direct I/O space access of the control registers
 - Digital I/O compatible with consumer mode S/PDIF(out)/I2S(in)
- ❑ Onboard Multi-I/O and Peripheral interface, include:
- One floppy port with 1 Mb/s transfer rate
 - Two serial ports with 16550 compatible Fast UART
 - One parallel port with EPP and ECP capabilities
 - Two USB ports and PS/2 keyboard/mouse ports
 - One IR (Infrared) interface
- ❑ Built-in Hardware Monitor circuit
- Detects CPU temperature/fan speed and current voltages
 - Supports optional Intel LANDesk Client Manager
- ❑ Onboard 2M Flash ROM supports complete ACPI and Legacy PMU, and is fully compatible with PC97 and PC98
- Provides Plug and Play function that detects peripheral devices and expansion cards automatically
 - Provides Trend's ChipAway Virus to ensure the entire boot process is virus free, no installation and configuration worries
- ❑ Dimension: ATX Form Factor, 24.4cm(L) x 22cm(W)

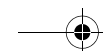
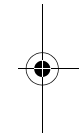
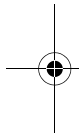


Document Conventions

This manual uses the following conventions to help you locate and identify the information that you need.

Table i: Document conventions.

Representation	Use
bold	Text that must be entered exactly as it appears.
<i>italic</i>	Title of a book or a placeholder. A placeholder represents information that you must provide.
UPPERCASE	Directory name, file name, or acronym.
< >	Symbols, letters, and key names on the keyboard.
	This notepad icon indicates information that is of particular importance and should be considered before continuing.
	This alarm clock icon indicates that failure to adhere to directions may result in loss of data or damage to your system.
	The warning sign indicates that failure to adhere to directions may result in bodily harm or life-threatening situations.



Configuring BlasterBoard Hardware

Before you install the BlasterBoard onto the system chassis, you may find it convenient to first configure the BlasterBoard's hardware including setting jumpers, installing memory modules, and attaching components. This chapter provides you with information regarding your PC-DVD Dxr3 upgrade package.

Unpacking the BlasterBoard



Set the CMOS Clear jumper to Normal Mode before use. The shipped BlasterBoard is set to Clear CMOS and will not boot the system. See "J7: CMOS Clear Selector" on page 1-7.

The BlasterBoard includes the following items:

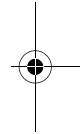
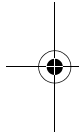
- ☐ BlasterBoard and the device driver
- ☐ Slot 1 holder and AT cables
- ☐ User's Guide
- ☐ CD audio cable
- ☐ Digital audio cable

The BlasterBoard is easily damaged by static electricity. Follow the precautions below while unpacking or installing the BlasterBoard.

- ☐ Do not remove the BlasterBoard from its original package until you are ready to install it.
- ☐ Frequently ground yourself to discharge any static electric charge that may build up in your body while working on installation and/or configuration. For example, you may ground yourself by touching an unpainted portion of the computer's metal chassis.
- ☐ Remove the BlasterBoard from its anti-static packaging and place it on a grounded surface, component side up.



- ☐ Handle the BlasterBoard by its edges or by the mounting bracket to avoid touching its components.
- ☐ Check the BlasterBoard for damage. If an integrated circuit appears loose, press carefully to seat it firmly in its socket.
- ☐ Do not apply power if the BlasterBoard appears damaged. If there is damage to the board contact your dealer immediately.



BlasterBoard Components

This diagram of the BlasterBoard is for your reference.

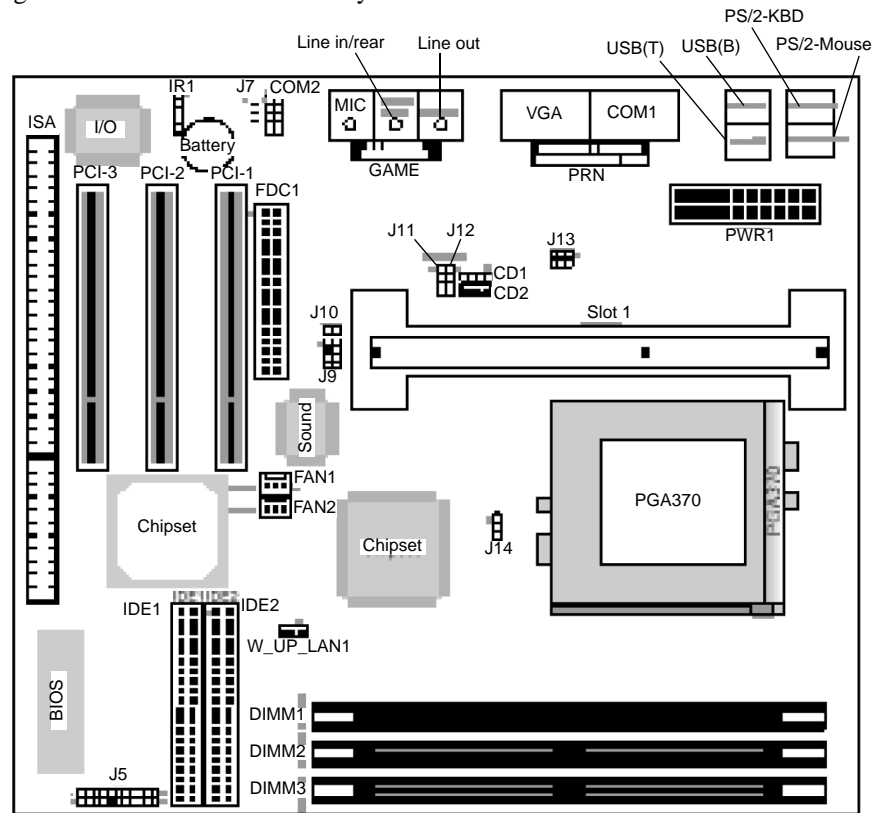
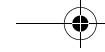
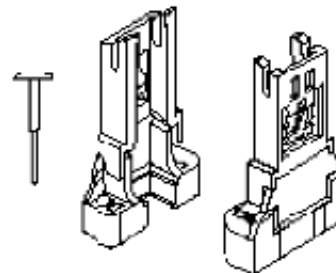


Figure 1-1: The BlasterBoard 128 V2



CPU Installation

The BlasterBoard supports Intel Pentium® II CPU in a Single Edge Contact (SEC) slot and a retention clip set that fits three different types of Intel CPU (SEPP, SECC, and SECC2). The retention clip set is preinstalled to make the CPU installation easier. However, the remaining steps needed to complete the CPU installation are given below.

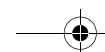
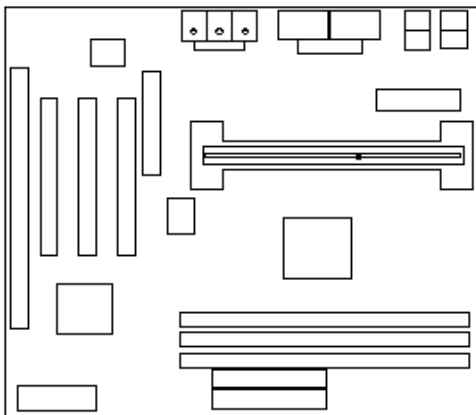


Installation Procedures

The following steps will guide you in installing your Intel Pentium® II properly.

Step 1

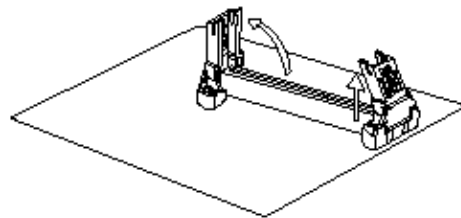
Place the BlasterBoard in front of you, oriented in the direction shown below.





Step 2

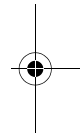
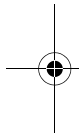
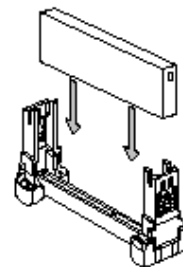
One set of Slot 1 holders was installed on your BlasterBoard; the two holders are attached by screws. Lift up both of the holders as shown.



Step 3

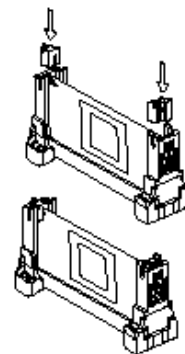
Flatten the two latches on each side of the CPU. Insert the CPU into the holders. Lock the two latches to secure the CPU.

If a Celeron CPU is installed, continue with the following step.



Step 4

After installing the CPU in the holders, push the retention locks downward to secure the CPU card as indicated.



CPU Speed Setting



If the CPU speed is set incorrectly and fails to boot up the system, then repeat steps 1, 3, 4.

The BlasterBoard's CPU Plug and Play technology allows you to set the CPU speed in BIOS setup. Enter BIOS Setup and select CPU Plug and Play Setup. Choose the correct speed to match the CPU installed. If you need to change the CPU speed:

1. Power off the computer and unplug the power cord.
2. Install a new CPU to Slot 1.
3. Clear CMOS RAM (see "Jumper Settings" on page 1-7) then power on the computer.
4. After the computer starts, enter BIOS Setup to set the new CPU speed.

Memory Installation



- ISDRAM modules have to be faster than 12ns("-12" parts). If clock speed of 100 MHz clock speed is used, the speed of SDRAM modules should meet the PC100 SDRAM specification (8ns or "-8" SDRAM at least).
- For the system to boot up, SDRAM must be inserted in DIMM1.

The BlasterBoard supports up to 768MB of system memory through three DIMM sockets on the board: Bank 0, Bank 1, and Bank 2:

Bank	Memory Module
Bank 0	DIMM1 4MB, 8MB, 16MB, 32MB, 64MB, 128MB, 256MB
Bank 1	DIMM2 4MB, 8MB, 16MB, 32MB, 64MB, 128MB, 256MB
Bank 2	DIMM3 4MB, 8MB, 16MB, 32MB, 64MB, 128MB, 256MB
Total System Memory = Bank 0 + Bank 1 + Bank 2	

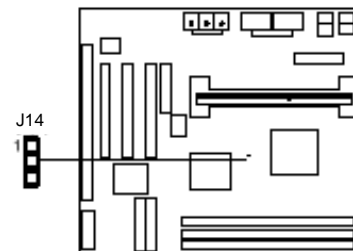


Jumper Settings

J14: CPU Type Selector

The board supports two types of CPU, one for Slot 1, one for PGA370. Set the J14 jumper to select CPU type.

CPU Type	Setting
Slot 1	
PGA370	



J7: CMOS Clear Selector



Set the J7 jumper to Normal Mode before use. If you need to clear the CMOS, turn off your system and unplug the power cord.

The battery on the BlasterBoard is used to retain the system configuration in CMOS RAM.

Description	Setting
Normal Mode	
Clear CMOS (while shipping)	

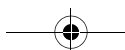
J8: Keyboard Power On Selector

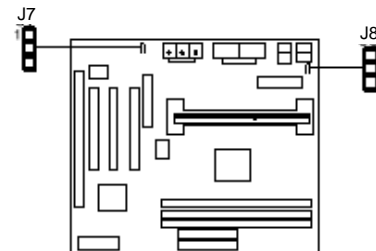


The system power must provide an 720mAon +5VSB (+5V Standby) signal.

This jumper is designed for Keyboard Power On function.

Description	Setting
Disabled (default)	
Enabled	





ATX Functions

The BlasterBoard supports ATX power and ACPI functions.

Software Power-Off

Follow the steps below to use “Software Power-Off Control” in Windows 95/98.

1. Click the **START** button on the Windows 95/98 taskbar.
2. Select **Shut Down The Computer** to turn off the computer. The message “It is now safe to turn off your computer” is not shown when using this function.

Modem Ring Power Up

If an external modem ring-up signal occurs while the computer is in the Soft-off/Suspend state, the system wakes up and can be remotely accessed. Set the **COM Ports** option to *Activity*.

Alarm Wake Up

If you want the computer to boot at a certain time, set the **Power Up by Alarm** option to *Enabled*, and set the **Alarm** options in BIOS Setup.

Keyboard Power On

You can set a *hot key* to power on the system when it is pressed. Enter BIOS Setup to set the **KB Power On Function** and set the **Keyboard Power On jumper** (see “J8: Keyboard Power On Selector” on page 1-7).

PWR1: ATX Power Connector

Connect the ATX power supply to this connector to provide power for the BlasterBoard.





J5(21,22): Power Button/ Suspend Switch Connector

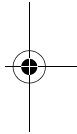
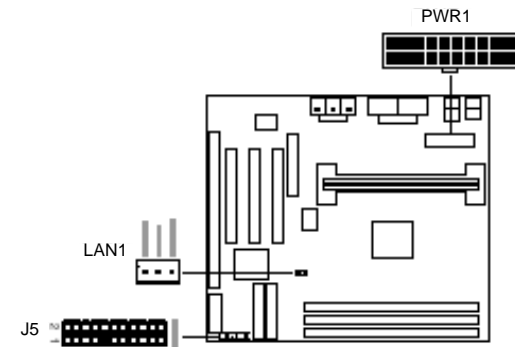
Attach the ATX Power Button cable to the J5 connector. When the system is off, push the power button to turn the system on.

When the system is on, push the power button rapidly to switch the system to the Suspend mode, and push and hold the button for more than four seconds to turn the system completely off.

When the system is in the Suspend mode, push the power button rapidly to turn the system on.

W_UP_LAN1: Wake On LAN Connector

While in Suspend state, if an external LAN signal is received, the system wakes up and can be accessed with the LAN card.



Connectors



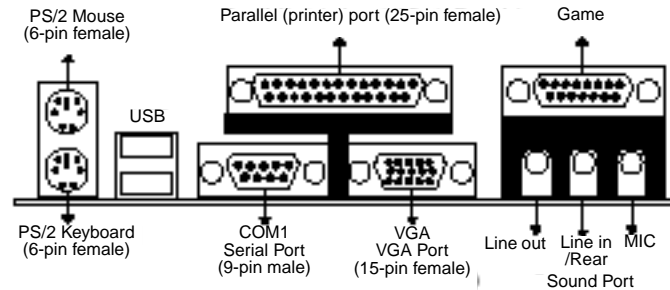
Turn *off* the power before making any connection to the board.

Attach system components and devices to the BlasterBoard via the connectors. A description of these connector follows. See page 3 for the location of the connectors.



External Connectors Location

There are external connectors on the BlasterBoard that are used directly without additional bracket, interface, or adapter. As following drawing, that contains PS/2 Mouse, PS/2 Keyboard, 2 USB, Parallel port, COM1 port, VGA port, Game port, Sound port connectors.



FDC1d: Floppy Disk Port

The BlasterBoard provides a standard floppy disk port that supports two floppy disk drives: 360K, 720K, 1.2M, 1.44M, 2.88M

IDE1/IDE2: Primary/ Secondary IDE Ports

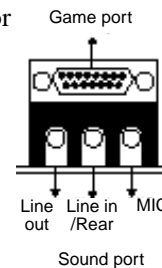
The BlasterBoard has a 32-bit Enhanced PCI IDE Controller with two IDE ports and supports PIO mode, PCI Bus Master, and Ultra DMA 33/66 operation modes. Each IDE port can support two devices—one set to *Master* and the other set to *Slave*.



Onboard Sound Blaster Audio PCI 128

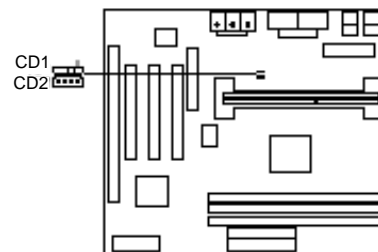
Sound and Game (on the External Connectors)

The board provides Line-In, MIC (Microphone), Line-Out (Speaker) signals for audio jack, and game port (also used as the joystick/MIDI port) signals.



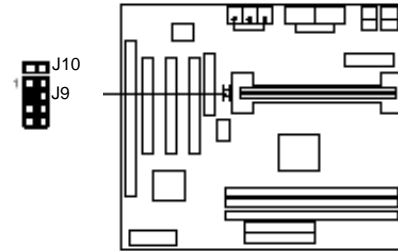
CD1/CD2: Analog Audio from CD-ROM

Connect AUDIO output of a CD-ROM drive to these connectors. Panasonic-compatible CD-ROM drives connect to CD2 (pin signal assignments are G-L-G-R); Sony-compatible CD-ROM drives connect to CD1 (pin signal assignments are L-G-G-R).



J9: Digital Audio Connector

The Digital Audio ribbon cable/bracket contains three jacks for Aux IN, SPDIF IN, and SPDIF OUT device. Aux IN is used for the second Line-in port. SPDIF IN is used for external digital audio. Connect SPDIF OUT to an AC3 Audio Amplifier or Mini-Disk.



J10: Internal SPDIF IN Connector



Avoid using the SPDIF IN jack and the internal SPDIF IN connector simultaneously. For example, if one of them is connected, you should unplug the other one.

Use SPDIF/IN cable to connect to the “DIGITAL AUDIO” port for the CD-ROM. This will give you non-distorted digital audio from CD-ROM.

Onboard VGA

The BlasterBoard onboard SiS 6326 chip provides a high-performance 64-bit 3D AGP Graphics Accelerator with 8MB frame buffer share from system memory.

It supports the following features,

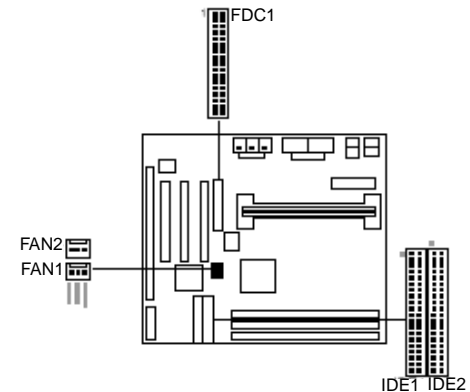
- ☐ AGP 2.0 compliant configuration
- ☐ 133MHz AGP operation
- ☐ MPEG-2 ISO/IEC 13818-2 MP@ML and MPEG-1 ISO/IEC 11172-2 standards
- ☐ Two 196 x 64 video line buffers for MPEG video playback

- ❑ 175MHz pixel clock
- ❑ Super high-resolution graphics modes up to 1600 x 1200
- ❑ Virtual screen up to 2048 x 2048
- ❑ 80/132 columns text modes

You may install a PCI graphics card on your BlasterBoard in place of the onboard AGP graphics accelerator. Once installed and the monitor connected, BlasterBoard recognizes the PCI graphics card and uses it for display. If it does not display, reconnect to the onboard AGP graphics accelerator, restart your computer and open the BIOS utility. From the BIOS Main menu, select INTEGRATED PERIPHERALS and press the ENTER key. On the INTEGRATED PERIPHERALS screen, select “Init Display First” and change the setting to “PCI.” Press the ESC key to exit, save the new settings when prompted. Before restarting your computer, reconnect the monitor to your PCI graphics card. Restart your computer.

FAN1,FAN2: Fan Power Connectors

The fan connectors support CPU and chassis cooling fan with +12V.

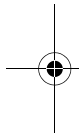
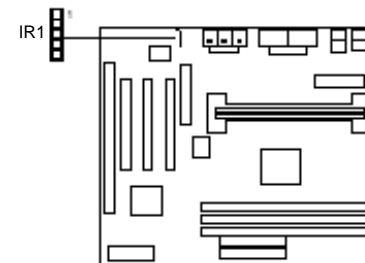




IR1: InfraRed Connector

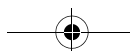
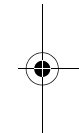
The BlasterBoard provides a 5-pin Infrared connector for IR devices. You must configure the setting of IR device through the Peripheral Setup (see “Integrated Peripherals Setup” on page 3-16).

Pin	Signal
1	VCC
2	IRRXH
3	IRRXL
4	GND
5	IRTX



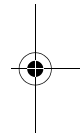
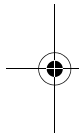
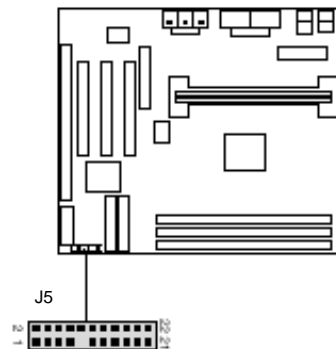
J5: Case Connectors

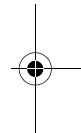
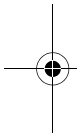
The case includes connections for Speaker, Power LED, Keylock, HDD LED, Reset Switch, ACPI LED, and Power Button cables.

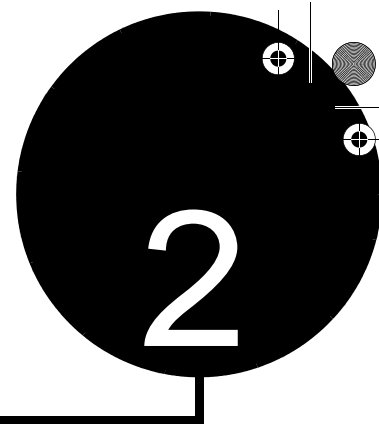




pin1,3,5,7: Speaker
pin2,4,6: Power LED
pin8,10: Keylock
pin15,16: HDD LED
pin17,18: Reset Switch
pin19,20: ACPI LED
pin21,22: Power Button (refer to “ATX Functions” on page 1-8)







Sound Blaster AudioPCI™ 128

Your onboard Sound Blaster AudioPCI 128 audio solution has become the choice for state-of-the-art PCI systems with its high PCI bus speed, and high-quality audio specifications. The onboard digital-to-analog (DAC) converter provides the lowest noise and highest signal-to-noise ratio of any sound card in its class.

With 2MB, 4MB, and 8MB wavetable sound sets, your AudioPCI 128 gives you excellent performance when playing music for games and multimedia software. AudioPCI 128 sound sets support General MIDI, Roland GS with full sound effects and 10 drum kits, and MT-32.

In addition, AudioPCI 128 supports localized three-dimensional sound immersion in headphone and two-speaker environments.

AudioPCI 128 also supports multiple algorithm levels of reverb and chorus effects on the wavetable sounds as well as spatial sound enhancement on MIDI and Wave sounds in two speakers with multiple algorithms.

AudioPCI 128's compatibility with Sound Blaster PCI is achieved in the standard PCI bus, assuring hardware compatibility with the widest selection of PCI systems.

Full duplex operation allows simultaneous audio recording and playback.

AudioPCI 128 can share valuable system interrupts, and in most cases, it can share the interrupt with your LPT port. This frees hardware resources for other add-in peripherals.



This Sound Blaster AudioPCI 128 will give you years of enjoyment of high-quality sound on your PC.

Getting More Information

Refer to the online *User's Guide* for more information and instructions on how to use the applications included with the audio drivers.

Setting Up Your Audio Card

This section describes the installation of the drivers and software in Windows 95/98 and Windows NT 4.0.

Installing AudioPCI in Windows 95/98

The installation in Windows 95 versions and Windows 98 are slightly different; the sections that follow, give detailed installation instructions for each operating system.

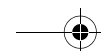
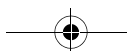
Installing Audio Drivers in Windows 95

To install audio drivers in Windows 95 Retail (Version 4.00.950):

1. Windows automatically detects the audio chip in your computer.
2. In the the New Hardware Found dialog, select the *Driver from Disk Provided by Hardware Manufacturer* option and click the OK button.
If the setup program runs automatically, click the Exit button. You need to install the drivers before installing the applications.
3. Insert the installation CD into the CD-ROM drive.
4. In the Install from Disk dialog, type **D:\AUDIO\language\WIN95DRV** (**D:** represents your CD-ROM drive and *language* represents the language of the software that you want to install) and click the OK button.
5. Follow the instructions on the screen to complete the audio driver installation.

To install audio drivers in Windows 95 OSR2 (Version 4.00.950B/C):

1. Windows 95 automatically detects the audio chip in your computer.



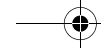


2. Insert the installation CD into the CD-ROM drive.
If the setup program runs automatically, click the Exit button. You need to install the drivers before installing the applications.
3. In the Update Device Driver Wizard dialog, click the Next button.
4. Click the Other Locations option.
5. Type the path or click the Browse button to select the path of the drivers' location—for example, **D:\AUDIO\language\WIN95DRV** (**D:** represents your CD-ROM drive and **language** represents the language of the software that you want to install)—and click the OK button. The audio drivers are copied to your system.
6. Click the Finish button.
The system prompts you for the installation CD.
7. Click the OK button.
8. Type the path or click the Browse button to select the path of the drivers' location—for example, **D:\AUDIO\language\WIN95DRV** (**D:** represents your CD-ROM drive and **language** represents the language of the software that you want to install)—and click the OK button. The audio drivers are copied to your system.
9. Click the Finish button.

Installing audio drivers in Windows 98

1. The Windows 98 Add New Hardware Wizard automatically detects the audio chip and attempts to locate the driver media provided by the manufacturer. Insert the installation CD and click the Next button.
2. Select the *Search For The Best Driver For Your Device (Recommended)* option and click the Next button.
3. Clear all check boxes and check only the *Specify a Location*. Type or click the Browse button and point to the path of the drivers' location—for example, **D:\AUDIO\language\WIN95DRV** (**D:** represents your CD-ROM drive and **language** represents the language of the software that you want to install)—and click the Next button.
4. Click the Next button to install the Windows 98 drivers.





Installing Applications in Windows 95/98

5. Click the Finish button when the installation is complete.
6. Restart your system when prompted.

1. Insert the installation CD into the CD-ROM drive.
2. If AutoRun is enabled on your system, the Sound Blaster AudioPCI 128 Install Launcher will appear on your screen. Otherwise, double-click the My Computer icon on your Windows desktop, then right-click on your CD-ROM drive icon and click AutoPlay.
3. Select the applications you want to install and click the OK button.
4. Follow the instructions on the screen to complete the installation.
5. Restart you system when prompted.

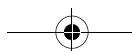
Testing the Installation in Windows 95/98

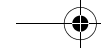
After the AudioPCI drivers are installed, use Windows Media Player to test your audio card.

1. Click the Start button, select Programs, select Accessories, select Multimedia (for Windows 98, choose Entertainment), and then click Media Player.
2. On the Device menu, click Sound.
3. In the Open dialog, select a sound file from the list, and click the Open button.
4. On the Media Player, click the Play option to hear the selected sound being played. If you encounter problems, consult “Troubleshooting” in the online *User’s Guide*.

If you do not have Media Player, install it by following these instructions:

1. Click the Start button, point to Settings, and then click Control Panel.
2. In the Control Panel window, double-click the Add/Remove Program icon.
3. Click the Windows Setup tab.
4. Select Multimedia and click the Details button.
5. In the Multimedia dialog, select Media Player, and then click the OK button.
6. Follow the instructions on the screen to complete the installation.





Uninstalling Software in Windows 95/98

1. Click the Start menu, point to Settings and click Control Panel.
2. Double-click the Add/Remove Programs icon.
3. On the Install/Uninstall tab page, select Sound Blaster AudioPCI 128.
4. Click the Add/Remove button, and then click the Yes button when prompted to remove the software.



Installing AudioPCI in Windows NT 4.0

This section shows you how to properly install the audio drivers under Windows NT 4.0:

- ☐ Installing Software in Windows NT 4.0
- ☐ Testing the installation in Windows NT 4.0
- ☐ Uninstalling the AudioPCI in Windows NT 4.0

Installing Software in Windows NT 4.0

The software installation in NT 4.0 includes the installation of audio drivers.

To install the software:

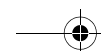
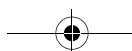
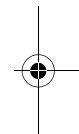
1. Insert the installation CD into your CD-ROM drive. The AutoPlay screen appears.
2. Follow the instructions on the screen to complete the installation.

Testing the Installation in Windows NT 4.0

You may run a simple application to test the card's MIDI and wave sound playback. This ensures that the card is properly installed and that there are no conflicts in the IRQ, DMA, or I/O settings.

To test the installation:

1. Click on Start in the Taskbar, select Programs, select Accessories, select Multimedia, and then click Media Player.
2. On the File menu, click Open.
3. Browse to a folder that contains a file with the extension .WAV. Select the file and click the Open button. Click the Play button to play the file.





Uninstalling the AudioPCI in Windows NT 4.0

To uninstall the software:

1. Click Start on the Taskbar, select Settings, and click Control Panel. Double-click the Multimedia icon.
2. From the Audio Devices tab page, select an existing audio devices and then click Remove. Click Yes when prompted to remove the driver.
3. Close the Multimedia Properties window and restart your computer.

General Specifications

Wavetable Synthesis

- ☐ Creative synthesis engine
- ☐ Digital effects engine for reverb and chorus
- ☐ 128-voice polyphony and multi-timbral capability
- ☐ 16 MIDI channels, 128 GM and GS compatible instruments and 10 drum kits
- ☐ MT-32 compatible instrument set
- ☐ 2MB, 4MB, and 8MB sample sets included

3D Audio Technology

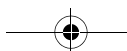
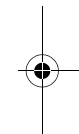
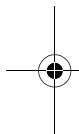
- ☐ Support for Microsoft DirectSound
- ☐ Localized 3D Sound technology expands the spaciousness of sounds in the traditional two-speaker system
- ☐ Multi-Algorithm reverb and chorus

Memory Subsystem

- ☐ Utilizes system RAM for wavetable samples
- ☐ User configurable for 2MB, 4MB, or 8MB

CD-Quality, 16-Bit Stereo Digital Audio

- ☐ 8-bit and 16-bit, mono and stereo recording and playback
- ☐ User-selectable sample rates from 5 kHz to 48 kHz





- ☐ Full Duplex support enables simultaneous record and playback for Internet communications software

MIDI Interface / Joystick Port

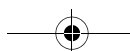
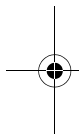
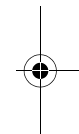
- ☐ Built-in 15-pin MIDI interface (cable available separately)
- ☐ Compatible with Sound Blaster and MPU-401 UART modes
- ☐ IBM-compatible 15-pin joystick port with analog support

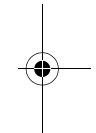
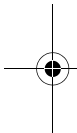
Compatible with the Following Standards

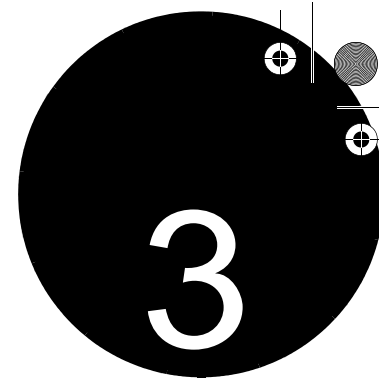
- ☐ General MIDI
- ☐ MPC3
- ☐ Plug and Play
- ☐ Sound Blaster PCI

AudioPCI Mixer

- ☐ 6 Channel Mixer control for access to CD/Auxiliary, Microphone/Line, Music Synthesizer, and Digital Audio
- ☐ Spatial audio control for Digital Audio and Music Synthesizer
- ☐ Reverb and Chorus control for Music Synthesizer





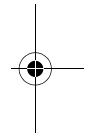
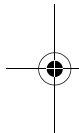


BIOS Setu

The BIOS utility stores information about your computer such as the date and time, and hardware installed. Your computer uses this information to initialize all the components when you start the computer, to ensure that everything runs smoothly.

If the information in the BIOS is incorrect, it may cause your system to malfunction, even stop your computer from booting. If this happens, you can use the Clear CMOS jumper to clear and reset the CMOS memory area that is used to store the setup information.

You can run the BIOS setup and manually make changes to the BIOS. You may need to configure hardware that you add to the BlasterBoard, such as the CPU, the memory, disk drives, etc.



Running the BIOS Setup Utility

Each time your computer starts, before the operating system is booted, a message appears on the screen that prompts “*Press DEL to run SETUP.*” When the message appears, press the **DELETE** key and the Main Menu page of the setup utility appears on your monitor.

```

              IBM PC/AT compatible
              BIOS SETUP UTILITY
              Award Software, Inc.

  STANDARD CMOS SETUP      INTEGRATED PERIPHERALS
  TIME & DATE FEATURES SETUP  PASSWORD SETTING
  CHS/IDE/SMART/BIOS DETECT  IDE AUTO DETECTION
  FLOPPY MANAGEMENT SETUP   CPU & EXIT SETUP
  PRIMARY/SECONDARY          EXIT WITHOUT SAVING
  HARD DISK PARAMETERS
  LOAD SETUP DEFAULTS

  Esc : Quit              F1 : Select Item
  F10 : Save & Exit Setup  Shift+F10 : Change Color
  
```

Use the cursor arrow keys to select (highlight) an option on the Main Menu page. Press **ENTER** to execute the option. Hold down the **SHIFT** key and press **F2** to cycle through the optional color schemes for the setup utility. To exit the utility, press the **ESCAPE** key.

Executing some options on the Main Menu displays tables of installed values. On these pages, use the cursor arrow keys to select an item, and then use the **PGUP** and **PGDN** keys to cycle through the alternate values for each of the items. Other options on the Main Menu lead to dialogs that require you to answer Yes or No by pressing the **Y** or **N** key.

Standard CMOS Setup

If you make changes to the BIOS setup, press the **F10** key to save the changes and exit the utility. Press the **F5** key to reset the cancel the changes and reset to the original values. Press the **F6** key to return the BIOS to the default values. Press the **F7** key set the BIOS to a set of high-performance values.

Use the Standard CMOS Setup to change basic information such as the date and time, IDE devices, and drives.

```

THE STANDARD BIOS
STANDARD CMOS SETUP
CMOS SETUP HELP

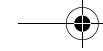
Date (mm:dd:yy)  Fri, Feb 5 1999
Time (hh:mm:ss)  15 : 10 : 50

HDD INDEX      TYPE      SIZE      CYLS HEAD SECTORS LANGE SECTOR  FILE
Primary Master  :  C      0      0  J      0      0      0 NORMAL
Primary Slave   :  C      0      0  J      0      0      0 NORMAL
Secondary Master :  C      0      0  J      0      0      0 NORMAL
Secondary Slave :  C      0      0  J      0      0      0 NORMAL

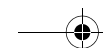
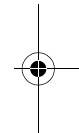
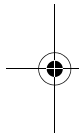
Delay: 0.000s
Delay: 1.000s
Floppy 3 Mode Support : Disabled

Jitter : 0.000s
Bit 01 : All Errors

ESC : Quit      F1 + F2 : Default Defaults  F10: Exit / F5 : Previous
F1 : Help      Ctrl + F2 : Change Color
  
```



Items	Description
Date and Time	System values for date and time.
Primary Master Primary Slave Secondary Master Secondary Slave	Characteristics of any hard disk drives on the four available IDE channels. (SCSI hard disk drives do not appear here.) You can automatically install most hard disks using the IDE HDD Auto Detect Option on the main menu. However, if a drive cannot be automatically detected, use these settings to manually enter the characteristics of the drive. The documentation for your drive provides the data you need to fill in the values for CYLS (cylinders), HEAD (read/write heads), etc.
Floppy Drive A Floppy Drive B	Size and capacity of the floppy diskette drive(s).
Floppy 3 Mode Support	Floppy 3 Mode refers to a floppy drive for a 3.5" diskette with a capacity of 1.2 MB; sometimes used in Japan
Video	Defines the video mode of your monitor; set it to EGA/VGA.
Halt On	Determines the types of errors that halt the system.



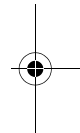
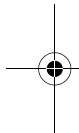
Anti-Virus protection	Protects your computer from some viruses that attack the partition table of your hard disk. <i>Disable</i> this item if you are installing a new operating system.
CPU Internal Cache	All processors supported by this BlasterBoard have internal level-1 cache—leave this item <i>enabled</i> .
External Cache	Most processors supported by this BlasterBoard have external level-1 cache—leave this item <i>enabled</i> . The exceptions are the SEPP Celerons running at 266 and 300 MHz.
Quick Power On Self Test	When <i>enabled</i> , the power-on testing is shortened and the system boots faster.
Boot Sequence	Determines the order and sequence of the drives that the system searches to boot an operating system.
Swap Floppy Drive	Use this item to change the drive letter assignments so that drive B becomes drive A.
Boot Up Floppy Seek	System checks the tracks on the floppy drives at boot. Do not <i>enable</i> unless you have a 360K, 5.25" floppy drive.
Boot Up NumLock Status	Starts computer with NUMLOCK key <i>off</i> or <i>on</i> .
Memory Parity Check	<i>Enable/Disable</i> memory parity checking.
Typematic Rate Setting	<i>Enable</i> to use the following two settings: "Typematic Rate" and "Typematic Delay."

Typematic Rate (Chars/Sec)	Sets rate of characters created by holding down a key; “Typematic Rate Setting” must be <i>enabled</i> .
Typematic Delay (Msec)	Number of Msec (milliseconds) before a character is generated when a key is pressed; “Typematic Rate Setting” must be <i>enabled</i> .
Security Option	If password protection is installed, determines if the password is required at <i>start-up</i> or on <i>entry</i> to the setup utility.
PCI/VGA Pallete Snoop	May be required to solve some problems involving non-standard VGA cards.
OS Select For DRAM > 64 MB	<i>Enable</i> this item if you are running OS/2 and have more than 64 MB memory.
Report No FDD for Windows 95	If your computer has with no floppy drive and you are using Windows 95, select <i>yes</i> for this item to ensure compatibility with the Windows 95 logo certification.
Video BIOS Shadow	Allows the video BIOS to be copied to system memory for faster execution.
XXXXX-XXXXX Shadow	Allows the BIOS of other devices to be copied to system memory for faster execution.

SDRAM CAS Latency SDRAM WR Retire Rate	Installs timing parameters for the SDRAM memory. <i>Recommended:</i> Leave these items at their default values.
RAMW# Assertion Timing	Determines the timing for local memory writes. <i>Recommended:</i> Leave this item at the default value.
CPU to PCI Post Write	If <i>enabled</i> , write operations to PCI IDE devices are buffered for better performance.
CPU to PCI Burst Mem. WR	If <i>enabled</i> , the system can assemble long write operations for burst mode from data held in buffers.
System BIOS Cacheable Video BIOS Cacheable	These items allow the video and/or system to be cached in memory for faster execution. <i>Recommended:</i> Leave this item at the default value.
Memory Hole at 15M-16M	Reserves memory for some ISA expansion cards that require it.
AGP Aperture Size	Defines an aperture size for AGP graphics adapter; defines the section of the PCI memory address space reserved for graphics.
Concurrent Function (Mem)	Allows concurrent operation for system memory. <i>Recommended:</i> Leave this item at the default value.
Concurrent Function (PCI)	Allows concurrent operation for the system PCI bus. <i>Recommended:</i> Leave this item at the default value.
CPU Pipeline Control	Allows CPU pipelining. <i>Recommended:</i> Leave this item at the default value.



PCI Peer Concurrency	When <i>enabled</i> , more than one device on the PCI bus can be active at the same time.
PCI Delay Transaction	Can be enabled if the computer has an embedded 32-bit write buffer to support delay transaction cycles. <i>Recommended:</i> Leave this item at the default value.
XXX Driving Rate	Controls system timing. <i>Recommended:</i> Leave this item at the default value.
SDRCLK SDWCLK	Controls system timing. <i>Recommended:</i> Leave this item at the default value.
Refresh Queue Depth	Controls system timing. <i>Recommended:</i> Leave this item at the default value.
Host2PCI/ Host2Mem Cycle Time	Controls system timing. <i>Recommended:</i> Leave this item at the default value.

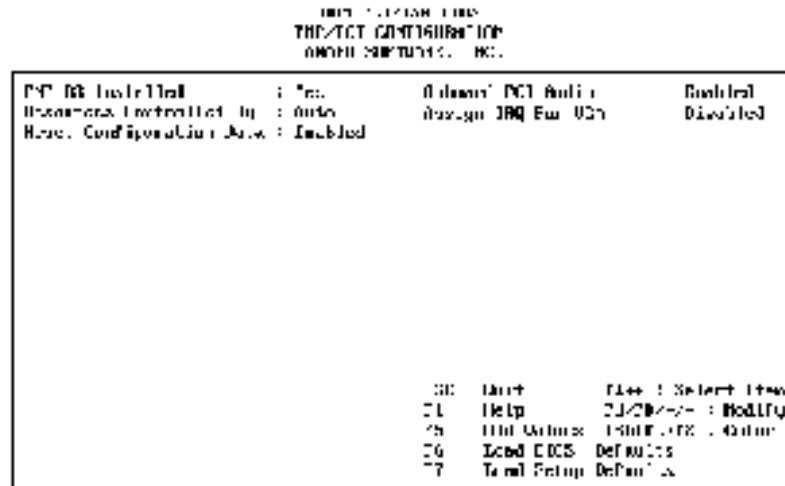


Video Off Method	Defines how the video is powered down.
Switch Function	If <i>enabled</i> , allows you to use suspend switch connected to the BlasterBoard. If set to <i>Break/Wake</i> , one press of suspend button puts the system in suspend mode; second press cancels suspend mode.
Doze Speed (div by)	Determines the fraction of the CPU clock speed that the system uses when it is in the power-saving doze mode.
Stdby Speed (div by)	Determines the fraction of the CPU clock speed that the system uses when it is in the power-saving standby mode.
MODEM Use IRQ	Sets the IRQ for an optional modem so the system can resume from a soft powerdown when an incoming call is received.
Ctrl-Alt-Backspac As	Sets the function of the hot keys CTRL + ALT + BACKSPACE. The functions are <i>Shutdown</i> , <i>Suspend</i> , and <i>Disabled</i> .
HDD Off After	Sets a powerdown timeout for the hard disk drive. If the time passes with no activity, the hard disk powers down.
Doze Mode	Sets a powerdown timeout for the power saving doze mode. If the time passes with no activity, the system enters doze mode.
Standby Mode	Sets a powerdown timeout for the power saving standby mode. If the time passes with no activity, the system enters standby mode.
Suspend Mode	Sets a powerdown timeout for the power saving suspend mode. If the time passes with no activity, the system enters suspend mode.

HDD Ports Activity	If <i>enabled</i> , any hard disk activity resets the powerdown timeouts.
COM Ports Activity	If <i>enabled</i> , any activity through the serial ports resets the powerdown timeouts.
LPT Ports Activity	If <i>enabled</i> , any activity through the parallel port resets the powerdown timeouts.
VGA Activity	If <i>enabled</i> , any video activity resets the powerdown timeouts.
IRQ (3-7,9-15,NMI)	If <i>enabled</i> , any activity through the Interrupt Request (IRQ) lines resets the powerdown timeouts.
IRQ 8 Break Suspend	If <i>enabled</i> , an alarm programmed on the system realtime clock can be used to resume from suspend mode.
Power Button Over Ride	Determines if the system power button causes a power saving suspend mode.
Ring/LAN Power Up	If <i>enabled</i> , the system can be resumed from a power-saving mode by incoming traffic to a modem or LAN adapter.
Resume from LAN Control	If <i>enabled</i> , the system can be resumed through network control.
KB Power ON Function	Selects <i>Power Key</i> to support Windows 98's keyboard or a password as the method of using the keyboard power on feature.
Power Up By Alarm	If <i>enabled</i> , you can use the alarm items to install a time and date for an alarm that resumes the system from a power-saving mode.

PnP/PCI Configuration

The PnP/PCI Configuration sets some of the parameters for devices installed on the system PCI bus, and devices that use the system plug and play capability.



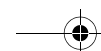
Items	Description
PNP OS Installed	Enable this item if you are using an O/S that supports Plug and Play such as Windows 95 or 98.
Resources Controlled By	Sets <i>Automatic/Manual</i> configuration of devices. If set to <i>manual</i> , new items appear. Reserves an interrupt request line (IRQ) and a DMA channel for the device by setting the value to <i>Legacy ISA</i> .



Reset Configuration Data	If <i>enabled</i> , when computer restarts, the current data is deleted and new data created on the configuration of Plug and Play devices.
Onboard PCI Audio	<i>Enable/disable</i> the onboard PCI audio system.
Allocate IRQ for VGA	If <i>enabled</i> , an IRQ is assigned to the PCI VGA graphics system.
DMA Channels 0-7	If set to <i>PnP</i> , DMA channels are automatically allocated by the Plug and Play BIOS or operating system. If set to <i>ISA/EISA</i> , the channel(s) is reserved for installed ISA or EISA expansion card.
IRQ 3-15	If set to <i>PnP</i> , IRQ lines are automatically allocated by the Plug and Play BIOS or operating system. If set to <i>ISA/EISA</i> , IRQ lines are reserved for an installed ISA or EISA expansion card.
Reserved Memory Size	Reserves a block of memory for any device that requires it.
Reserved Memory Address	Sets the address for any block of memory that has been reserved.

Load BIOS Defaults

If you select “Load BIOS Defaults” and press **ENTER**, a dialog appears. If you press the **Y** key, and then **ENTER**, the setup utility is loaded with a set of BIOS default values. The BIOS default values are not very demanding and allow your system to function with most hardware and memory configurations.



Load Setup Defaults

If you select “Load Setup Defaults” and press **ENTER**, a dialog appears. If you press the **Y** key and then **ENTER**, the setup utility is loaded with a set of setup default values. The setup default values are demanding and your system may not function properly if you are using slower memory chips or other kinds of low-performance components.

Integrated Peripherals Setup

The Integrated Peripherals Setup allows you to edit some of the parameters for peripheral devices installed on the system.

```

      00:00:00:00:00:00
      INTEGRATED PERIPHERALS
      AMRPU CULTURE, INC.

Internal PCI/IDE : Both      IDE Mode Use DMA : 0
IDE Primary Master PIO : Auto IDE Function : Enabled
IDE Primary Slave PIO : Auto IDE Controller : Enabled
IDE Secondary Master PIO : Auto IDE Keyboard Support : Disabled
IDE Secondary Slave PIO : Auto Auto Keying Effect :
Primary Master UltraDMA : Auto UDMA Signal Memory Size : 8 MB
Primary Slave UltraDMA : Auto
Secondary Master UltraDMA : Auto
Secondary Slave UltraDMA : Auto
IDE Burst Mode : Enabled
IDE MAH Block Mode : Enabled

Onboard IDE Controller : Enabled
Onboard Serial Port 1 : 3F8/IRQ4
Onboard Serial Port 2 : 2F8/IRQ3
I/O Address Select : Bitable

Onboard Parallel Port : 3F8/IRQ7
Parallel Port Mode : ECP/PPS

ESC : Exit      Help : Select Item
F1 : Help      W/D/+/=- Modify
F2 : Hard Disk  Ctrl+Esc  Ctrl
F3 : Load BIOS Defaults
F4 : Load Setup Defaults
  
```

Items	Description
Internal PCI/IDE	<i>Enable/disable</i> the onboard primary and secondary IDE channels.

IDE Primary/Secondary Master/Slave PIO	<i>Enable</i> a Programmable Input/Output mode for each device. Primary and secondary IDE channels each support a <i>Master</i> and <i>Slave</i> device.
IDE Primary/Secondary Master/Slave UltraDMA	<i>Enable</i> an UltraDMA mode for each of the devices. The primary and secondary IDE channels each support a <i>Master</i> and <i>Slave</i> device.
IDE Burst Mode	<i>Enable</i> or <i>disable</i> burst mode transfers to IDE devices.
IDE HDD Block Mode	<i>Enable</i> or <i>disable</i> block mode transfers to IDE devices.
Onboard FDC Controller	<i>Enable</i> or <i>disable</i> the onboard floppy disk drive controller.
Onboard Serial Port1	<i>Enable</i> or <i>disable</i> the onboard serial port COM1, and assign a port address.
Onboard Serial Port2	<i>Enable</i> or <i>disable</i> the optional onboard serial port COM2, and assign a port address.
IR Address Select	If you install an optional serial port, select an address for the port. Use the following items, “IR Mode” and “IR IRQ Select,” to assign the IR port with a protocol and an interrupt request line.
Onboard Parallel Port	<i>Enable</i> or <i>disable</i> the onboard parallel port LPT1, and assign a port address.
Parallel Port Mode	Determine the parallel port mode—can select <i>Normal</i> , <i>ECP</i> (Extended Capabilities Port), <i>EPP</i> (Enhanced Parallel Port), or <i>ECP + EPP</i> .

ECP Mode Use DMA	If you install the parallel port with ECP mode, use to assign a DMA channel to the port.
PS/2 mouse function	<i>Enable</i> or <i>disable</i> the PS/2 mouse feature.
USB Controller	<i>Enable</i> or <i>disable</i> the onboard USB ports.
USB Keyboard Support	<i>Enable</i> or <i>disable</i> support for a USB keyboard.
Init Display First	Assign your graphics adapter to a <i>PCI</i> or <i>AGP</i> slot.
VGA Shared Memory Size	Define amount of system memory that can be used by the onboard graphics adapter.
Current CPU Temp. Current System Temp. etc.	Use for hardware monitoring. Install these items with the parameters that you wish to use for hardware monitoring.

Password Settings

If you select “Password Settings” and press **ENTER**, a dialog appears that lets you enter a password. You can enter no more than six letters or numbers. Press **ENTER** after you have typed in the password. A second dialog asks you to retype the password for confirmation. Press **ENTER** after you have retyped it correctly. The password is required at boot time, or when you enter the setup utility.

Changing or Removing the Password

Select “Change or Remove the Password” and type in the current password. In the next dialog, type in the new password, or press **ENTER** to disable password protection.



IDE HDD Auto Detection

“IDE HDD Auto Detection” automatically detects and installs any hard disk drives installed on the primary and secondary IDE channel. Most modern drives can be detected. If you are using an older drive that cannot be detected, install it manually.

Setup checks for two devices on the primary IDE channel and then two devices on the secondary IDE channel. At each device, the system flashes an **N** in the dialog. Press **ENTER** to skip the device and proceed to the next device. Press **Y**, then **ENTER**, to tell the system to auto-detect the device.

Save and Exit Setup

Select “Save and Exit Setup” and press **ENTER** to exit the Setup utility without saving any changes that you have made.

Save the changes that you have made in the setup utility and exit the setup program. When the Save and Exit dialog appears, press the **Y** key to save and exit, or press the **N** key to return to the setup main menu.

Exit Without Saving

Select “Exit without Saving” and press **ENTER** to discard any changes that you made in the setup utility and exit the setup program. When the Exit Without Saving dialog appears, press the **Y** key to discard changes and exit, or press the **N** key to return to the setup main menu.

