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# 9BJF2

Intel Socket 478  
Intel 845G + ICH4  
ATX Motherboard

## User's Manual

Version 1.0

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## *Declaration of Conformity*

According to 47 CFR, Parts 2 and 15 of the FCC Rules

The following designated product:

**EQUIPMENT: MAINBOARD  
MODEL NO.: 9BJF2**

is a Class B digital device that complies with 47 CFR Parts 2 and 15 of the FCC Rules.  
Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

This declaration is given to the manufacturer:

**CHAINTECH-EXCEL COMPUTER INC.  
4427 Enterprise St. Fremont, CA 94538, U.S.A.**

<http://www.chaintech-excel.com>

Chaintech President: Simon Ho

Signature:

A handwritten signature in black ink, appearing to be 'Simon Ho', written over a horizontal line.



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## **Federal Communications Commission Statement**

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

- ♦ This device may not cause harmful interference
- ♦ This device must accept any interference received, including interference that may cause undesired operation.

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. If this equipment is not installed and used in accordance with the manufacturer's instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

## **Canadian Department of Communications Statement**

This digital apparatus does not exceed the Class B limits for audio noise emissions from digital apparatuses set out in the Radio Interference Regulations of the Canadian Department of Communications.

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# Chapter 1

## Introduction

### 1-1 Product Specifications

#### ❑ Processor

- Supports Intel Pentium 4 Socket 478 processors
- Supports 400/533MHz (Internal System Bus)

#### ❑ Chipset

- Intel 845G + ICH4 chipset

#### ❑ DRAM Memory

- Two 184-pin DDR DIMM supports up to 2GB
- Supports PC1600/PC2100 DDR SDRAM

#### ❑ Expansion Slots

- One AGP slot for 4XAGP at 1.5v (v2.0 compliant) or ADD (optional) adapter supports DFP and NTSC/PAL TV system
- Six 32-bit PCI slots (Rev 2.2 compliant)
- One CNR slot for modem, audio and LAN riser



This motherboard supports only 1.5v AGP electricals. AGP card using 3.3v or other voltages may result in system boot up failure, malfunction, etc.

#### ❑ Boot-Block Flash ROM

- Award BIOS, supports PnP, APM, DMI, ACPI & Multi-device booting features i.e. floppy, LS120, CD/DVD-ROM, HDD(IDE, SCSI), ZIP-ATAPI etc.

#### ❑ Embedded Ultra DMA-100 PCI IDE controller

- Supports two IDE ports up to 4 ATAPI devices
- Supports up to PIO Mode 4 up to 16.6MBps, Multi Mode 4 up to 66MBps and Multi Word Mode 5 up to 100MBps with bus mastering
- Bus Mastering software drivers for common multi-task operating systems

#### ❑ On-board ITE 8712F I/O Controller

- Two UARTs support two serial ports and IR function for HPSIR and ASKIR
- One parallel supports SPP/ECP/EPP
- One floppy disk drive connector supports up to 2.88MB
- Integrated smart card reader function and interface

#### ❑ Embedded USB 2.0 Controller

- EHCI compliant USB host controller with Root Hub
- Support up to six USB ports (EHCI/UHCI v1.1 compatible)

#### ❑ Fast Ethernet/Home Networking Controller

- On-board LAN chip RTL8100B supports 10/100Mbps or 1/10Mbps Home PNA 2.0

**❑ Back-Panel I/O Connectors**

- PS/2 Mini-DIN keyboard and mouse port
- Two USB ports and one RJ45 port
- One 9-pin D-SUB male Serial port
- One 15-pin D-SUB female VGA port
- One 15-pin D-SUB female Game/MIDI port
- One 25-pin D-SUB female Printer port
- Audio Line-in/out and Mic-in jacks

**❑ On board video Sub-system**

- Integrated 2D/3D graphics accelerator
- Full frame DVD audio and video playback
- Shared system memory use Intel D.V.M. technology

**❑ On-board PCI Audio Subsystem**

- CMedia 8738 audio chip w/ legacy audio SB16/Pro compatible

**❑ Audio Subsystem via AC-link (optional)**

- AC'97 V2.2 compliant CODEC with integrated SRC

**❑ Embedded System Monitor Hardware**

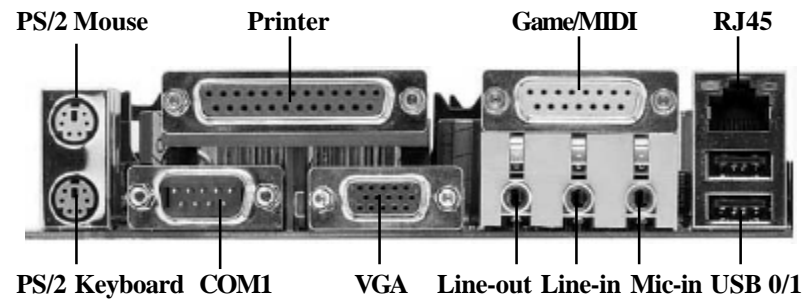
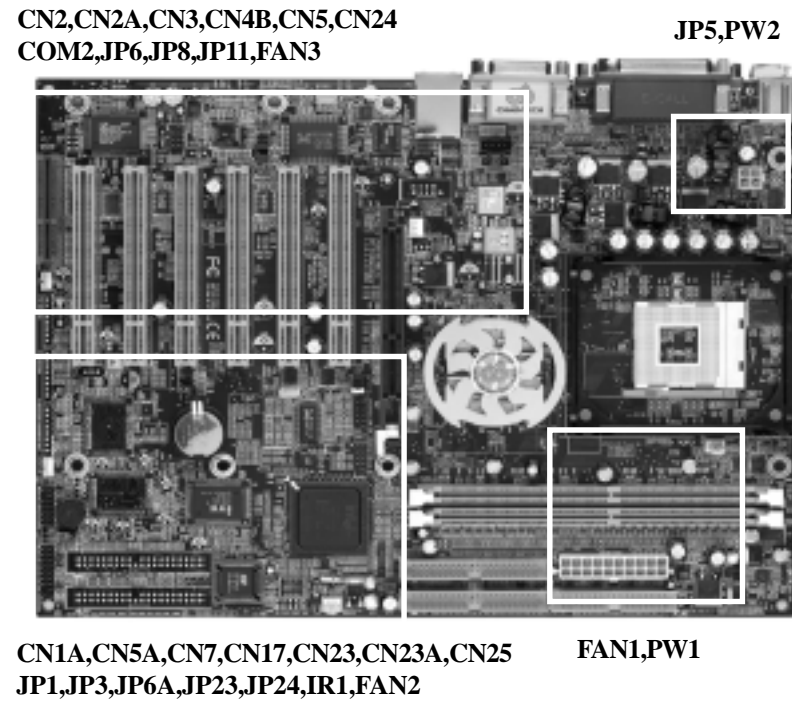
- 8 external voltage inputs
- 2 temperature sensor with thermistor for CPU and system
- 2 Fan speed monitoring with ON/OFF control in suspend

## 1-2 Package Contents

This product comes with the following components:

- ❑ One mainboard
- ❑ Two 40-pin (80-conductor) UDMA-100 IDE connector ribbon cable.  
\* **Color coded connection:** Blue to mainboard, Gray to Master and Black to slave
- ❑ One 34-pin floppy disk drive ribbon cable.
- ❑ One User's Manual
- ❑ One CD-ROM that includes
  - Award DMI Utility for DOS
  - VGA, audio drivers and utilities for Win9X/ME/2000/XP/NT4.0
  - USB2.0 driver for Windows 2000/XP
  - Intel Bus Master IDE, ATA and LAN drivers for Win9x/ME/2000/XP
- ❑ **Apogee Options**
  - **Body Theater** provides you the true personal experience of surround sound.
  - **CBOX** composite I/O ports for front-audio and front-USB.
  - **Round Cable** provides better overall system stability and neatness
  - **6ch-Kit** provides you with Surround/Center+Bass speaker extension jacks
  - **THIS LINUX** OS software pack CD with option of Asian or European version (Summit) or both version bundle(Apogee).
  - **Value Pack 2002** software pack including Norton AntiVirus, Adobe ActiveShare, Acrobat Reader, Acrobat eBook Reader, Imagemore and AutoSave.

### 1-3 Mainboard Layout





## 1-4 Connector and Jumper Reference Chart

Jumper & Connector No.	Function	Page
JP1	Clear CMOS Data	8
JP3	External Clock Frequency	8
JP5	Power On By Keyboard	8
JP6/JP6A/JP24	Power On By USB 0/1, 2/3 and 4/5	8
JP8	On board Audio	9
JP11	On board LAN	9
CN1A	Over-ride Power Button Connector	7
	Power Indicator LED Connector	
	System Reset Switch Connector	
	Speaker Connector	
	IDE Activity LED Connector	
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PW1/PW2	ATX/ATX12V Power Supply Connector	6

## Chapter 2

# Hardware Setup

If your mainboard has already been installed in your computer you may still need to refer to this chapter if you plan to upgrade your system's hardware.



**Be sure to disconnect the power cable from the power source before performing any work on your mainboard, i. e. installing a CPU, memory module, changing a jumper setting, etc. Not doing so may result in electrical shock!**

### 2-1 Installing a CPU in a Socket 478

The Intel Socket 478, designed for the Pentium 4 processor, has been incorporated as a standard mainboard specification. To insert your CPU into Socket 478 please do the following:

1. Locate a small dot marked on the top surface of the CPU close to one of its corners. The same corner will also be cut off, leaving a noticeable notch in the CPU's corner. These markings indicate Pin 1 of the CPU.
2. Pull up the lever of Socket 478 so that it is perpendicular with the surface of the mainboard. Gently insert the CPU with Pin 1 at the same corner of Socket 478 that contains the end of the lever. Allow the weight of the CPU to push itself into place. Do not apply extra pressure as doing so may result in damaging your CPU. Snap the lever back into place.



**Installing a standard Intel specified heat sink with cooling fan is necessary for proper heat dissipation from your CPU. Failing to install these items may result in overheating and possible burn-out of your CPU.**

### 2-2 Setting Your CPU's Parameters

This mainboard uses a new user friendly technology that enables the user to setup a mainboard's CPU parameters through an easy to use BIOS setup procedure. It is no longer necessary to make many jumper settings as on conventional mainboards.

After installing all your hardware into your PC system, you can manually configure your CPU clock ratio and CPU clock according to your processor's specifications. By turning on your system's power. Enter the CMOS Setup Utility by pressing the Delete key when your BIOS identification screen appears, then go to the Frequency/Voltage Control option and select your CPU clock ratio and CPU clock speed (See Chapter 3).



**You do not need to make voltage settings because this mainboard will automatically set your CPU voltage.**

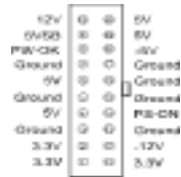
## 2-3 Connector and Jumper Settings

Connectors are used to link the system board with other parts of the system, including the power supply, the keyboard, and the various controllers of the system case.



The power supply connector is the last connection to be made while installing a mainboard. Before connecting the power supply, please make sure it is not connected to the power source.

### ATX/ATX12V Power Supply Connector (PW1/PW2)



PW 1

Pin	Signal	Wire
1	COM	BLK
2	COM	BLK
3	+12VDC	YEL
4	+12VDC	YEL

PW 2

The ATX power supply provides a single 20-pin connector interface which incorporates standard +/-5V, +/-12V, optional 3.3V and Soft-power signals. The Soft-power signal, a 5V trickle supply is continuously supplied when AC power is available. When the system is in the Soft-Off mode, this trickle supply maintains the system in its minimum power state.

The ATX12V power supply has a new +12 V (4-pin) auxiliary power connector. To enable the delivery of more +12 VDC current to the motherboard.

### Software Power-Off Control

This mainboard can be powered down using the Windows 9x Software Power-Off function. To power down your computer, click the START button on the Windows 9x task bar. Select "Shut Down The Computer" and the system turns off. The message "It is now safe to turn off your computer" will not be shown when using this function.

### Power-On By Modem

While in Soft-off state, if an external modem ring-up signal occurs, the system wakes up and can be remotely accessed. You may enable this function in BIOS's Power Management Setup menu. (See Chapter 3)

### Blinking LED in Suspend Mode

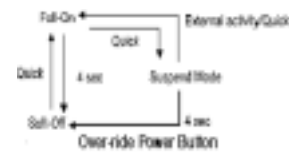
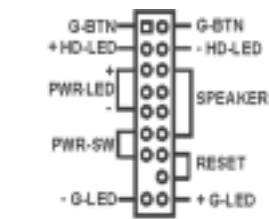
While in Suspend mode, the LED light on the front panel of your computer will flash. Suspend mode is entered by pressing the Override Power Button, pushing the Green button on your ATX case, or enabling the Power Management and Suspend Mode options in BIOS's Power Management menu. (See Chapter 3)

### Poly-fuse Over Current Protection

The poly-fuse protects the system from dangerous voltages the system might be exposed to via the keyboard or USB connectors. In case of such exposure, the poly-fuse will immediately be disconnected from the circuit, just like a normal fuse. After being disconnected for a certain period of time, the poly-fuse will return to its normal state, after which the keyboard or USB can function properly again.

## Front Panel Connector Set (CN1A) A through F

### A. Over-ride Power Button Connector



The power button on the ATX chassis can be used as a normal power switch as well as a device to activate Advanced Power Management Suspend mode. This mode is used for saving electricity when the computer is not in use for long periods of time. The Soft-off by PWRBTN function in BIOS's Power Management Setup menu must be set to "Delay 4 Sec." to activate this function.

When the Soft-off by PWRBTN function is enabled, pushing the power button rapidly will switch the system to Suspend mode. Any occurrence of external activities such as pressing a key on the keyboard or moving the mouse will bring the system back to Full-On. Pushing the button while in Full-On mode for more than 4 seconds will switch the system completely off. See Over-ride Power Button Operation diagram.

### B. Power Indicator LED Connector

The power indicator LED shows the system's power status. It is important to pay attention to the correct cables and pin orientation (i.e., not to reverse the order of these two connectors.)

### C. Green Button/LED Connector

Some ATX cases provide a Green button switch which is used to put the system in Suspend mode. In Suspend mode, the power supply to the system is reduced to a trickle, the CPU clock is stopped, and the CPU core is in its minimum power state. The system is woken up whenever the keyboard or mouse is touched. The system resumes in different ways as defined by Power Management Setup screen in BIOS.

### D. System Reset Switch Connector

This connector should be connected to the reset switch on the front panel of the system case. The reset switch allows you to restart the system without turning the power off.

### E. Speaker Connector

This 4-pin connector connects to the case-mounted speaker

### F. IDE Activity LED Connector

The IDE activity LED lights up whenever the system reads/writes to the IDE devices.

**Clear CMOS Data (JP1)**

Pin	Definition
1~2	Normal (default)
2~3	Clear CMOS Data

To clear the contents of the CMOS, please follow the steps below.

1. Disconnect the system power supply from the power source.
2. Set the jumper cap at location 2~3 for 5 seconds, then set it back to the default position.
3. Connect the system's power and then start the system.
4. Enter BIOS's CMOS Setup Utility and choose Load Setup Defaults. Type Y and press enter.
5. Set the system configuration in the Standard CMOS Setup menu.

**External Clock Frequency (JP3)**

Pin	Definition
1~2	Auto (default)
2~3	100MHz
Open	133MHz

This jumper allows user to configure the CPU external clock speed. Set the jumper cap to pins 1-2 for Auto detection, set the jumper cap to pins 2-3 for 100MHz FSB. Remove the jumper cap from all pins for 133MHz FSB.

**Power On By Keyboard (JP5)**

Pin	Definition
1~2	Disable (default)
2~3	Enable

This board is able to be turned on by the PS/2 keyboard (hot key). To use this function, select a hot key of your choice at the PS2KB Wakeup option under Wake Up Events in the BIOS's Power On Management screen. You must also set this jumper's cap to pins 2-3 to use this function.

**Power On By USB 0/1, 2/3 and 4/5 (JP6/JP6A/JP24)**

Pin	Definition
1~2	Disable (default)
2~3	Enable

This board is able to be turned on by a USB keyboard hot key or a USB mouse click. To use this function, select a hot key of your choice at the USB Kb Power Wake-Up From S3 option under Wake Up Events in the BIOS's Power On Management screen. You must also set both jumper's cap to pins 2-3 to use this function.

**On board Audio (JP8)**

Pin	Definition
1~2	Enable(default)
2~3	Disable

This function allows you to enable or disable the on board audio. You must set the jumper cap to pins 1-2 to enable or set pins 2-3 to disable this function.

**On board LAN (JP11)**

Pin	Definition
1~2	Enable(default)
2~3	Disable

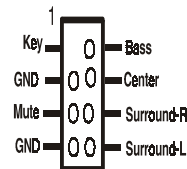
This function allows you to enable or disable the on board LAN. You must set the jumper cap to pins 1-2 to enable or set pins 2-3 to disable this function.

**CD-ROM Audio-in Connector (CN2/CN2A)**

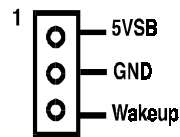
Use the audio cable enclosed with your CD-ROM disk drive to connect the CD-ROM to your mainboard. This will enable your CD-ROM's audio function.

**Auxiliary Audio-in Connector (CN3)**

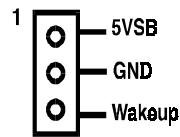
This connector is for use with a secondary CD-ROM, DVD-ROM or CDR/CDRW disk drive.

**AC3 Surround/Center + Bass Connector (CN4B)**

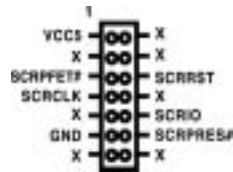
This connector is for Surround and Center+Bass speaker output ext. Plug in the optional AC3 Surround/Center+Bass jack extension into this connector. The black colored jack is for surround speaker output and the orange colored jack is for center+bass speaker output.

**WOL (Wake-on-LAN) Connector (CN5)**

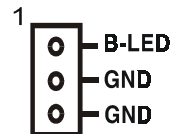
Enable the Wake Up On LAN selection in BIOS's Power Management Menu to use this function. The capability to remotely manage PCs on a network is a significant factor in reducing administrative and ownership costs. Magic Packet technology is designed to give WOL capability to the LAN controller. This header is used to connect an add-in NIC (Network Interface Card) which gives WOL capability to the mainboard.

**WOM (Wake-on-Modem) Connector (CN5A)**

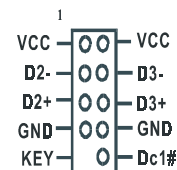
Enable the Wake Up On Modem selection in BIOS's Power Management Menu to use this function. This header is used to connect an add-in modem card which gives WOM capability to the mainboard.

**Smart Card Reader Connector (CN7)**

This connector must be connected to an optional Smart card reader or Chaintech (CBOX 2) composite front I/O panel.

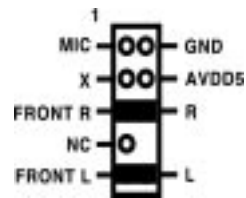
**Blue LED Connector(CN17)**

This feature work entirely the same as the power indicator LED, both shows the system's power status. The only difference is that this one is blue while the other is red LED.

**USB 0/1 Ports and USB 2/3 & 4/5 Connectors (USB1/CN23/CN23A)**

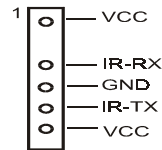
If you want to use a USB Keyboard, you must enable the USB keyboard support function in BIOS's Integrated Peripherals menu (See Section 3-4). This board contains a USB Host controller and includes a root hub with two USB 0/1 ports a connector for optional USB Adaptors (USB 2/3 and 4/5).

### Front Panel Audio Connector (CN24)



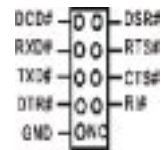
This connector give you the option of a front panel audio jack cable ext. to be plug into Chaintech (CBOX) composite front I/O panel. Simply remove the two jumper caps at pin 5-6 and 9-10 then plug it into the (optional) cable ext. connector. Pin 5-6 and 9-10 are shorted (default) to enabled the back panel audio function.

### Infrared Connector (IR1)



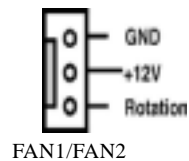
Select a COM2 Mode in BIOS's Integrated Peripherals menu the UART port to support IR functions. (See section 3-4)

### COM 2 Header (COM2)



Use the optional serial port cable enclosed with your mainboard. Plug into the header and attached the other end with the bracket to the system case back panel.

### CPU/System/Case Cooling Fan Connectors (FAN1/FAN2/FAN3)



The board's management extension hardware is able to detect the CPU and system fan speed in rpm (revolutions per minute). The wiring and plug may vary depending on the manufacturer. On standard fans, the red is positive (+12V), the black is ground, and the yellow wire is the rotation signal.



FAN3 (Case Fan) is an independent power line that is not control by system health monitor and power management.

### PS/2 Mouse and Keyboard Ports (PT1)

Pin	Definition
1	Data
2	No Connection
3	Ground
4	+5V(Fused)
5	Clock
6	No Connection

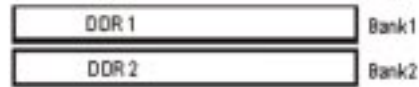
If a PS/2 mouse is used, BIOS will automatically detect and assign IRQ12 to the PS/2 mouse.





## 2-4 Main Memory Configuration

The DDR SDRAM memory system consists two banks and can supports the memory size up to **1GB** per bank. If you only use one bank it does not matter which one you use and if you use two or more banks, it does not matter which bank you install first.



### *DDR SDRAM Specifications*

FSB Frequency	Internal System Bus Freq.
100 MHz	200 MHz
133 MHz	266 MHz

DIMM type: 2.5V, unbuffered 64/128/256/512-bit DDR SDRAM  
Module size: Single/double-sided 64/128/256/512MB/1GB  
Parity: Either parity or non-parity

## **DDR**

Double Data Rate transfers allows for data to be fetched on both the rising and falling edges of the clock thus doubling the effective transfer rate of the clock. For example a 133MHz DDR clock would achieve a peak transfer rate equal to that of a 266MHz clock. The effective transfer rate is equal to the clock frequency multiplied by the bus width, doubled.

## Chapter 3

### Phoenix-AwardBIOS Setup Program

Phoenix-AwardBIOS ROM has a built-in setup program that allows users to modify the basic system configuration. This information is stored in CMOS RAM so that it can retain the setup information, even when the power is turned off. When you turn on or reboot the system, press the Delete key to enter the Phoenix-AwardBIOS setup program. The primary screen as shown in Figure 3-1 is a list of the menus and functions available in the setup program. Select the desired item and press enter to make changes. Operating commands are located at the bottom of this and all other BIOS screens. When a field is highlighted, on-line help information is displayed on the right side of the screen.

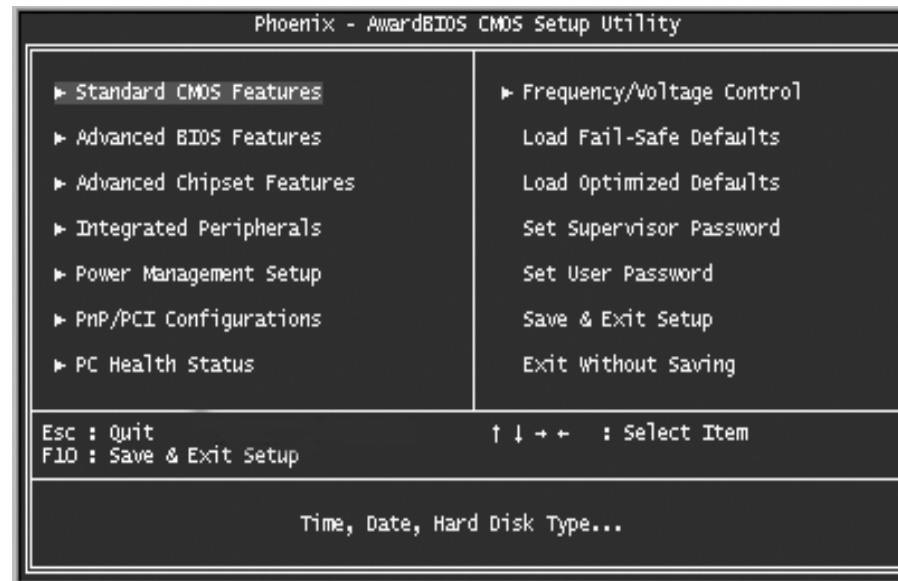


Figure 3-1 Setup Program Initial Screen

### 3-1 Standard CMOS Setup

The Standard CMOS Setup allows users to configure system components such as hard disk drive, floppy disk drive and video display as well as date, time and boot-up error signaling. This configuration menu should be changed when installing a mainboard for the first time, changing hardware in your system such as the HDD, FDD, video display, or when the CMOS data has been lost or contaminated. Choose the Standard CMOS Setup option from the CMOS Setup Utility menu (Figure 3-1) to display the following screen.

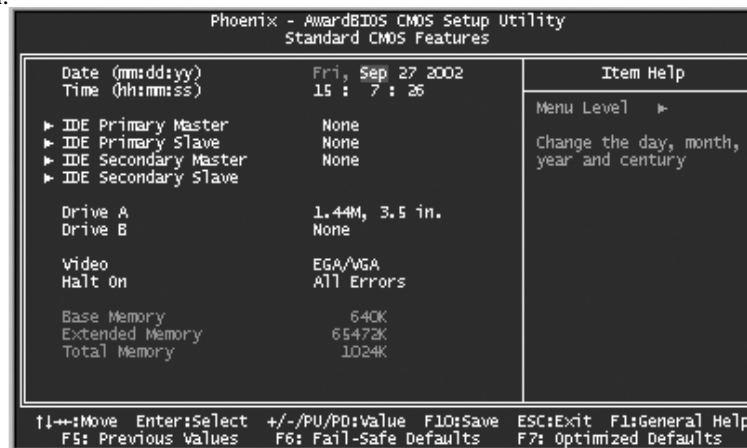


Figure 3-2 Standard CMOS Features Screen

#### Date/Time

Set the date and time. Do not skip this function as all of your timed events such as power management, saving files, etc. are based on this timer.

#### Hard Disk Setup (Primary/Secondary; Master/Slave)

This category identifies up to four IDE hard disk drives that have been installed in the computer. This section does not show information on other IDE devices such as CD-ROM drives or other hard drive types such as SCSI drives.

#### Floppy Disk Drives

Choose the memory capacity and disk size that corresponds with that of your floppy disk drive(s).

#### Video

Select the type of video adapter present in your system. You can ignore this setting if you are using a VGA monitor since VGA BIOS automatically configures this setting.

#### Halt On

When the system is powered on, BIOS performs a series of diagnostic tests called POST (Power On Self Test). This function stops the computer if BIOS detects a hardware error. You can tell BIOS to halt on all errors, no errors, or not to halt on specific errors.

### 3-2 Advanced BIOS Features

By choosing the Advanced BIOS Features option from the Standard CMOS Features menu (Figure 3-1), the screen below is displayed. This sample screen is for reference use only.



Figure 3-3 Advanced BIOS Features Screen

#### A. Anti-Virus Protection

Anti-Virus Protection is a code incorporated in the mainboard's BIOS firmware. During the boot-up sequence, BIOS loads before loading of the partition table or boot sector. Anti-Virus Protection loads with BIOS and is able to detect boot-up viruses before they have a chance to infect the hard drive. Anti-Virus Protection employs rule-based logic that doesn't look for specific viruses but rather detects patterns found in every virus, eliminating the need to perform periodical version updates after new viruses have been found.

### **B. CPU L1 and L2 Cache**

Cache memory is much faster than conventional DRAM system memory. These fields allow you to enable or disable the CPUs Level 1 built-in cache and Level 2 external cache. Both settings are left enabled to significantly increase the performance of your computer.

### **C. Boot Up Features**

After turning on the system, BIOS will perform a series of device initializations and diagnostic tests discussed below.

#### **Quick Power On Self Test (POST)**

Enable this function to reduce the amount of time required to run the POST (Power On Self Test). BIOS saves time by skipping some items during POST. It is recommended that you disable this setting. Discovering a problem during bootup is better than losing data during your work.

#### **First/Second/Third/Boot Other Device**

This option sets the sequence of drives BIOS attempts to boot from after POST completes. BIOS will search these drives for an operating system.

#### **Swap Floppy Drive**

Enabling this function will swap the floppy drive assignment so that drive A will function as drive B, and drive B will function as drive A. Note that the boot sequence assignment mentioned directly above does not include booting from floppy drive B. This function is useful if floppy drives B and A are of a different format and you want to boot from floppy drive B.

#### **Boot up Floppy Seek**

During POST, BIOS will determine if the installed floppy disk drive has 40 or 80 tracks. A 360K drive has 40 tracks and 720K, 1.2M and 1.44M drives have 80 tracks. All modern floppy disk drives have 80 tracks.

#### **Boot Up NumLock Status**

This function defines the keyboard's numberpad as number keys or arrow keys.

### **D. Gate A 20 Option**

Gate A20 refers to the way the system addresses memory above 1 MB (extended memory). When set to Fast, the system chipset controls Gate A20. When set to Normal, a pin in the keyboard controller controls Gate A20. Setting Gate A20 to Fast improves system speed, particularly with OS/2 and Windows.

## **E. Keyboard Interface**

### **Typematic Rate Setting**

When enabled, you can set the following two typematic control items. When disabled, keystrokes are determined arbitrarily by the keyboard controller in your system.

### **Typematic Rate (Chars/Sec)**

The typematic rate sets the rate at which characters on the screen repeat when a key is pressed and held down.

### **Typematic Delay (Msec)**

The typematic delay sets how long after you press a key that a character begins repeating.

## **F. Security Option**

The Supervisor and/or User Password functions shown in Figure 3-1 must be set to take advantage of this function. See Section 3-11 for password setting information. When the Security Option is set to System, a password must be entered to boot the system or enter the BIOS setup program. When the Security Option is set to Setup, a password is required to enter the BIOS setup program.

## **G. OS Select (For DRAM > 64MB)**

If your system's DRAM is larger than 64MB and you are running OS/2, select OS/2 as the item value. Otherwise, set the item value to Non-OS/2 for all other operating systems.

## **H. HDD Instant Recovery**

This board supports HDD Instant Recovery, select enabled to use this function. Upon system boot up, the HDD Instant Recovery Utility will be shown on the screen. Select **Install** or **Do Not Install** to continue booting.

### 3-3 Advance Chipset Features

By choosing the Advanced Chipset Features option from the Standard CMOS Features menu(Figure 3-1), the screen below is displayed.This sample screen is for reference use only.



Figure 3-4 Advanced Chipset Features Screen



All of the above settings have been determined by the mainboard manufacturer and should not be changed unless you are absolutely sure of what you are doing. Explanation of the DRAM timing and chipset features setup is lengthy, highly technical and beyond the scope of this manual. Below are some abbreviated descriptions of the functions in this setup menu.

#### A. AGP Aperture Size

Select the size of Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.

#### B. Flash BIOS Protection

The mainboard manufacturer developed BIOS protection technology that protects the System BIOS from accidental corruption by unauthorized users or computer viruses. When enabled, the BIOS data cannot be changed when attempting to update BIOS with the the FLASH utility. When disabled, the BIOS data can be updated by using the FLASH utility.

### 3-4 Integrated Peripherals

This section provides information on setting peripheral devices. By choosing the Integrated Peripherals option from the Standard CMOS Features menu (Figure 3-1), the screen below is displayed. This sample screen is for reference use only.



Figure 3-5 Integrated Peripherals Screen

#### A. OnChip IDE Device

##### On-chip Primary/Secondary PCI IDE

You can set this to disable the On-chip IDE controller if you are going to add a higher performance IDE board.

##### IDE Primary/Secondary Master/Slave PIO

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

#### B. OnChip PCI Device

##### AC97 Audio

Select Enabled if you install the audio riser card.



**AC97 Modem**

Select Enabled if you install the soft modem riser card.

**Onboard CMedia Audio**

This feature allows user to select 6 channels function, if they installed an optional 6ch Expansion kit on this mainboard.

**C. Super IO Device**

**Onboard FDC Controller**

Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you install an add-in FDC or the system has no floppy drive, select Disabled in this field.

**COM2 Select**

This function allows you to select an operating mode for the second serial port. (Standard RS-232C serial port/IrDA/ASKIR/SCR infrared port)

**Onboard Parallel Port**

Select a logical LPT port address and corresponding interrupt for the physical parallel port.

**D. USB Controller**

Enable the on-board Universal Serial Bus (USB) controller if you want to connect a USB keyboard to your system. Note that if this setting is disabled, you can still temporarily use a USB keyboard during bootup so that you can enter BIOS and enable this setting. If you pass the bootup stage without enabling this function, your PS/2 keyboard will no longer work.

**E. USB Keyboard Support**

If your current operating system doesn't support USB drivers (i.e., DOS) this function must be enabled for USB keyboard operation in these operating systems.

**F. Init Display First**

This function allows user to choose between Onboard or AGP slot to initialise display first .

### 3-5 Power Management Setup

This section provides information on the Green PC power management functions. By choosing the Power Management Setup option from the Standard CMOS Features menu (Figure 3-1), the screen below is displayed. This sample screen is for reference use only.

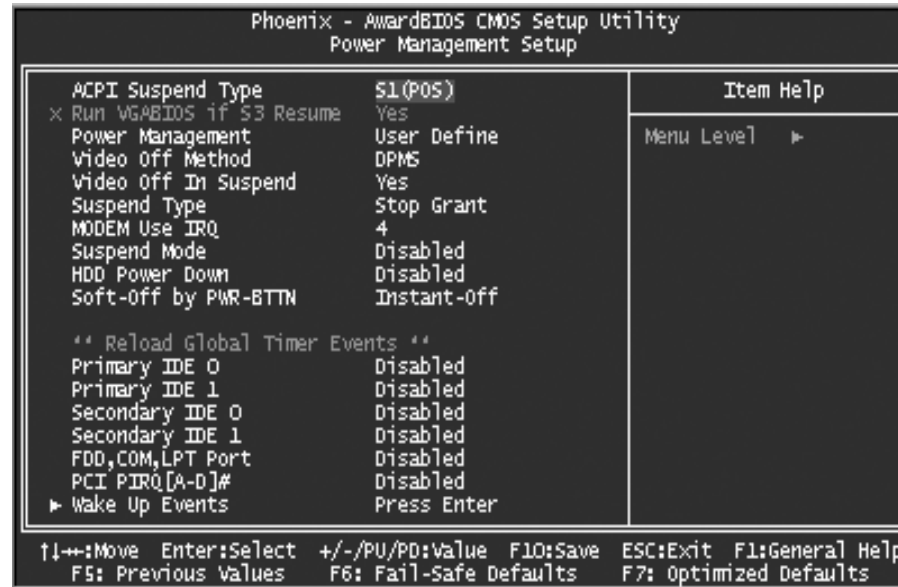


Figure 3-6 Power Management Setup Screen

#### A. ACPI Suspend Type

This feature allows user to select a suspend type for the operating system to turn off peripherals devices, such as CD-ROM players, when they are not in use.

#### B. Power Management

Power management allows the computer to save electricity when it is not in use by entering increasingly deep power saving modes.

#### C. Video Off Method

This function serves as both a screen saver and power saver for monitors. See the next function, Video Off After, for setting the video timer.

**Blank** - BIOS will only blank the monitor's screen. The electricity saved in this mode is negligible and this function is only used as a screen saver to prevent screen damage while the screen is on but not in use.

**V/H SYNC+Blank** - The system turns off the vertical and horizontal synchronization ports, writes blanks to the VGA buffer and the monitor's electron gun turns off. This function requires a monitor with Green features in order to take advantage of the power saving function. If you enable this function and do not have a Green monitor, the result will be the same as if you had selected Blank. This function serves as both a screen saver and an electricity saver.

**DPMS Supported** - Select this option if your video card supports the Display Power Management Signaling (DPMS) standard (i.e., you have a monitor that supports Green features). Use software supplied by your video subsystem to set video power management options.

#### ***D. Video Off In Suspend***

This setting determines when the monitor enters power saving mode. If set to Yes, the monitor enters the power saving mode after the chosen event expires. The Power Management function must be enabled to use this function.

#### ***E. Modem Use IRQ***

If your computer has a modem, use this function to tell BIOS which IRQ is being occupied by the modem card. When the system is in Green mode, the modem requires an IRQ assignment to wake up the system and perform tasks. This assignment is compliant with the APM 1.2 specification and is to be used in coordination with APM 1.2 compliant operating systems.

#### ***F. Suspend Mode***

The Power Management function must not be set to disabled to enable this function. If the system runs in Standby mode and the Suspend timer expires, all devices regulated by power management will shut off and the CPU speed will be 0 MHz.

#### ***G. HDD Power Down***

The Power Management function must not be set to disabled to enable this function. When the HDD idle time has elapsed, BIOS sends a command to the hard disk to turn off the motor. Set a time between 1 and 15 to indicate time required to wait before the hard drive enters a power saving mode. Some old hard drives may not support this function.

## **H. Soft-Off by PWR-BTN**

When set to Delay 4 Sec., this function allows the power button to put the system in Suspend, a power saving mode. See Section 2-3 for operation instructions of the over-ride power button operation which puts the system in Suspend mode. When set to Instant-Off the Soft-Off by PWR-BTN function is disabled and the computer turns completely off when the power button is pressed.

## **I. Wake Up Events**

### **Power On PCI Card**

When enabled, a PCI interface that receives a signal will wake up the system from soft off and green mode.

### **Power On By Modem**

When enabled, a modem that receives a signal will wake up the system from soft off and green mode. You should connect the modem to the COM port and turn on the resume event in green mode.

### **Wake Up On LAN**

When enabled, a LAN that receives a signal will wake up the system from soft off and green mode.

### **USB Power On from S3**

When enabled, the system is able to power on from S3 mode by a USB keyboard hot key or mouse click.

### **Power On By Alarm**

When enabled, this setting allows the system to turn back on at a designated time of the month. User must designate date of month and time of day. This function is only available when using an ATX power supply and the Software Power-Off function to turn off the computer. See the Software Power-Off feature in Section 2-4 of this manual for instructions.

### **Power On Function**

Select Button Only to control your computer power by the button on your system case. Set this function to Any Key to turn on the computer by touching any key on the keyboard. Set this function to Mouse Click to turn on the computer by clicking on the mouse. If you set this function to Hot Key or Password you must designate the keystrokes that will turn on the computer. Note that the power button is always able to turn on the computer regardless of how this function is set.

### 3-6 PNP/PCI Configuration

This section provides IRQ and DMA setting information. By choosing the PNP/PCI Configuration option from the Standard CMOS Features menu (Figure 3-1), the screen below is displayed. This sample screen is for reference use only.

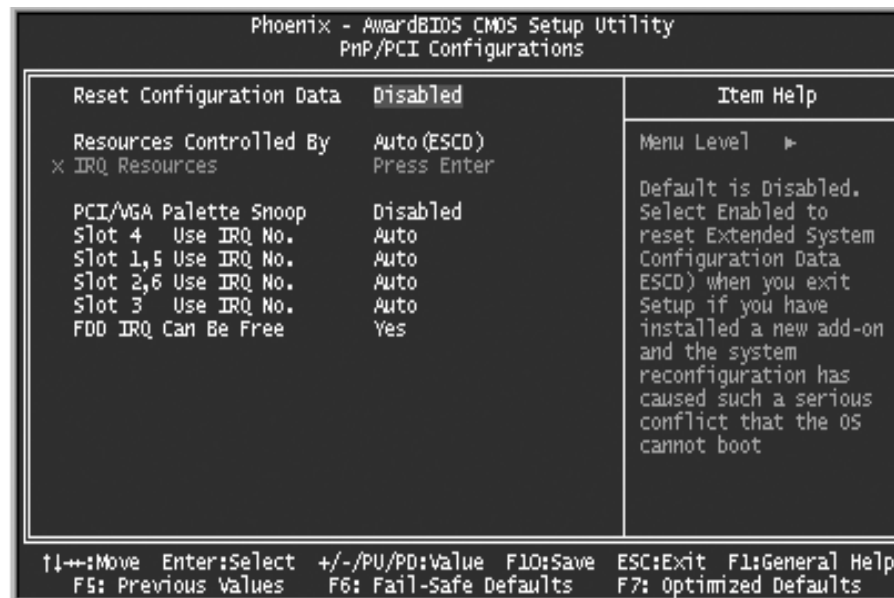


Figure 3-7 PnP/PCI Configurations Screen

#### A. Resources Controlled By

When set to Manual the system BIOS will not refer to the ESCD for IRQ & DMA information. Instead, it will refer to the items in the setup menu for assigning IRQ & DMA. When set to Auto the system BIOS will refer to the ESCD for all legacy information.



ESCD(Extended System Configuration Data) provides a detailed format of the configuration data structures stored in flash memory. Each data structure defines the resources used by a device or a card in the system. This includes legacy and PCI/ISA PnP devices.

#### B. FDD IRQ Can Be Free

This function allows user to choose if the FDD IRQ is able to be freed up. The default setting is Yes and this does not allow the IRQ to be free.

### 3-7 PC Health Status

By choosing the PC Health Status option from the CMOS Setup Utility menu (Figure 3-1), the screen below is displayed. This field shows you the current system temperature/external voltages input and the current CPU FAN and System FAN operating speed.



Figure 3-8 PC Health Status Screen

### 3-8 Frequency/Voltage Control

By choosing the Frequency/Voltage Control option from the CMOS Setup Utility menu (Figure 3-1), the screen below is displayed. This sample screen is for reference use only.

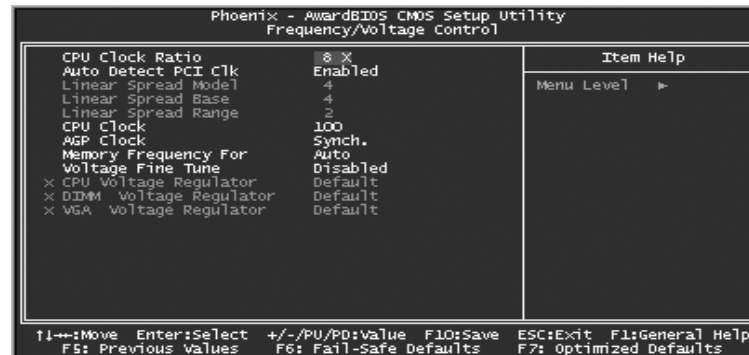


Figure 3-9 Frequency/Voltage Control Screen

#### A. CPU Clock Ratio

This feature allows user to manually configure your CPU clock ratio according to your processor's specifications.

#### B. CPU Clock

This feature allows the system memory to run at CPU clock speed. The default setting is at 100MHz.

### 3-9 Load Fail-Safe Defaults

Load Fail-Safe Defaults loads the default BIOS values directly from the CMOS Setup Utility menu (Figure3-1). If the stored record created by the setup program becomes corrupted and therefore unusable, these defaults will be loaded automatically when you turn on the computer.

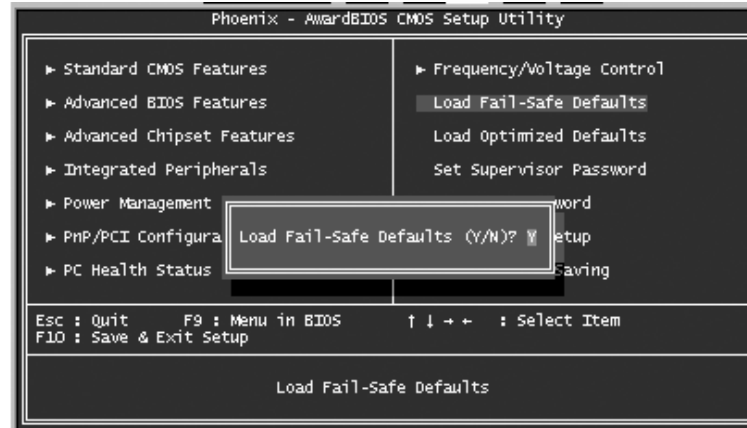


Figure 3-10 Load Fail-Safe Defaults Screen

### 3-10 Load Optimized Defaults

Load Optimized Defaults loads the default system values directly from the CMOS Setup Utility menu (Figure3-1). If the stored record created by the setup program becomes corrupted and therefore unusable, these defaults will be loaded automatically when you turn on the computer.

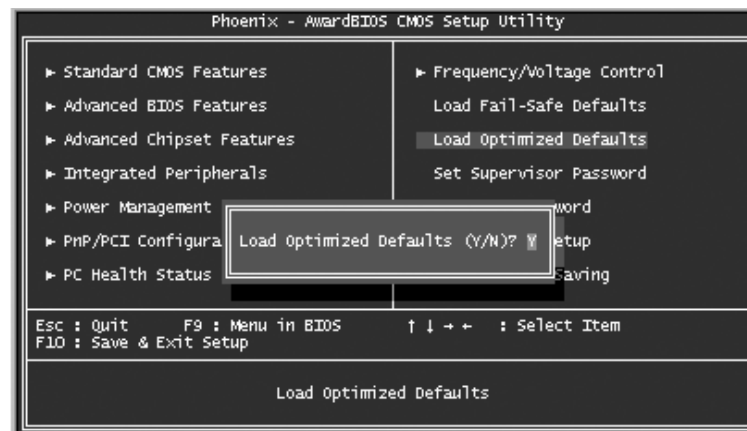


Figure 3-11 Load Optimized Defaults Screen

### **3-11 Supervisor Password & User Password Setting**

There are four different variables that control password settings. The first two are located under the Security Option function in BIOS Features Setup Menu (Figure 3-1). When the Security Option function is set to Setup, a password is required to enter BIOS and change BIOS settings. When the Security Option function is set to System, a password is required to enter both BIOS and the computer's operating system (for example Windows 98) found on the boot drive.

The third and fourth variables are user password and supervisor password selected in BIOS (Figure 3-1). The main purpose of separating user and supervisor is to allow only the supervisor to have control over the settings in BIOS. The user, on the other hand, is only allowed to access the computer's operating system and change the user password in BIOS. Note that when there is no supervisor password set, the user password controls access to all BIOS settings.

### **3-12 Save and Exit Setup**

If you select this and type Y (for yes) followed by the [Enter] key, the values entered in the setup utilities will be recorded in the CMOS memory of the BIOS chip.

### **3-13 Exit Without Saving**

Selecting this option and pressing Y followed by the [Enter] key lets you exit the Setup program without recording any new values or changing old ones.



## Chapter 4

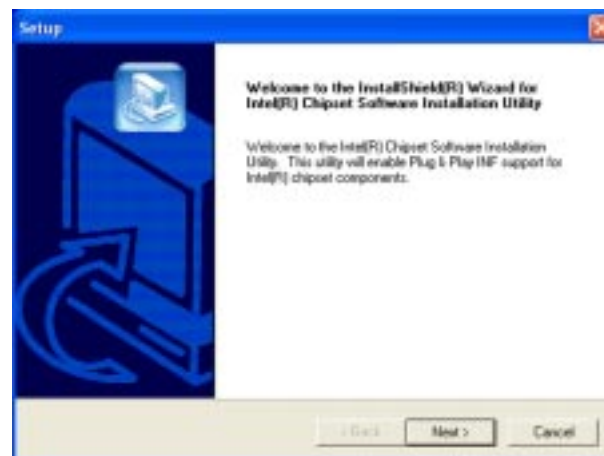
### Software Driver Guide

Insert the support CD that come with your motherboard into your CD-ROM drive or double-click th CD drive icon in "My Computer" to open up the setup screen.

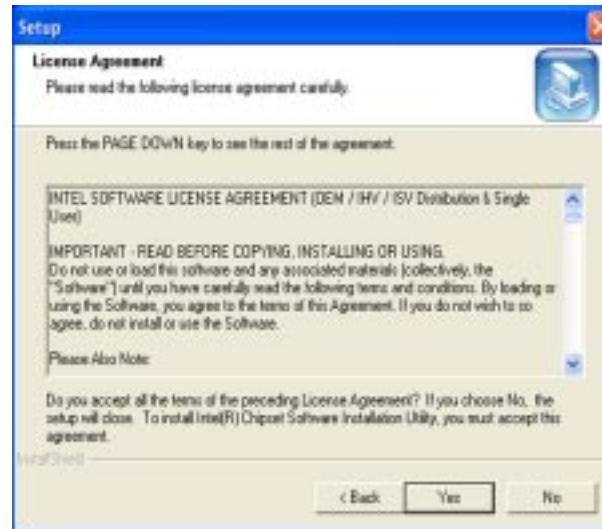


#### 4-1 Intel IDE Bus Mastering Drivers Setup

1. Click " Intel IDE Bus Mastering Drivers"
2. Click "Next" to start software installation



3. Click "Yes" to accept the license agreement



4. Click "Next" to continue setup



4. Select , click "Finish" to complete setup

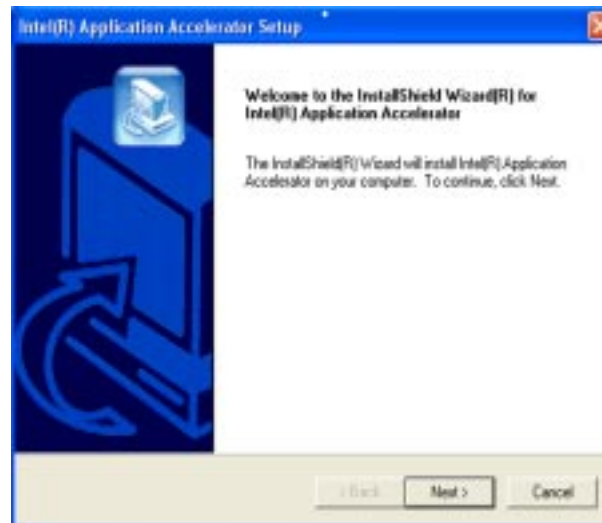


## 4-2 Intel Application Accelerator Setup

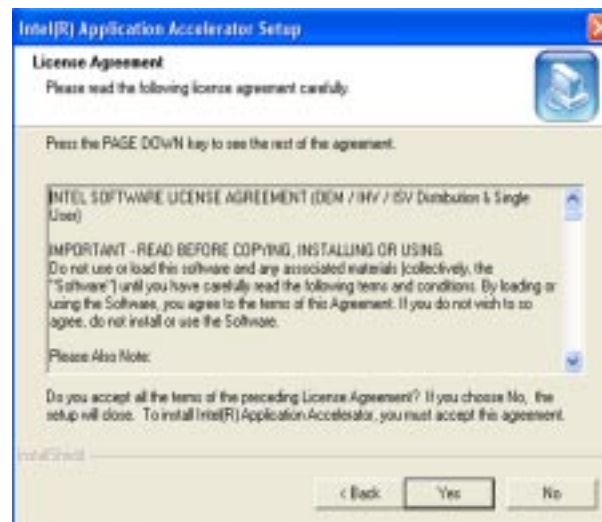
1. Click " Ultra ATA storage driver"



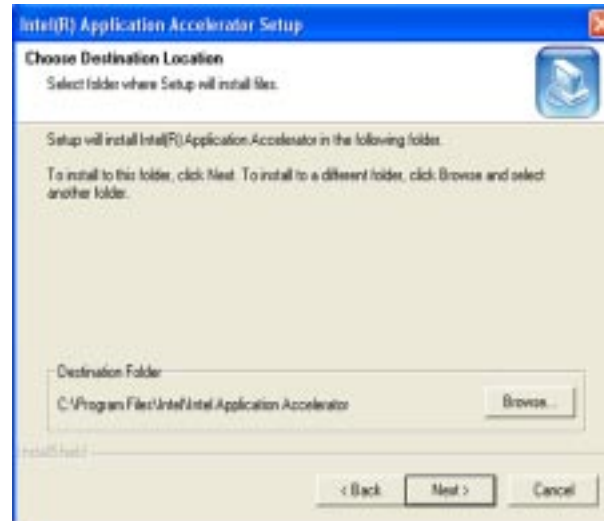
2. Click "Next" to start software installation



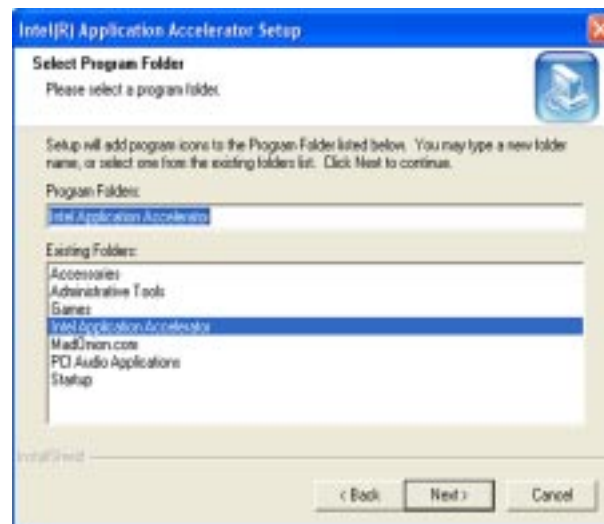
3. Click "Yes" to accept the license agreement



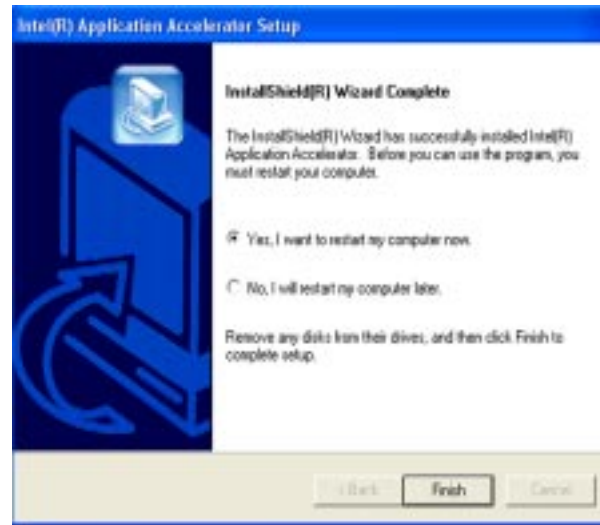
4. Click "Next" to continue installation



5. Click "Next" to continue installation



6. Select , click "Finish" to complete setup

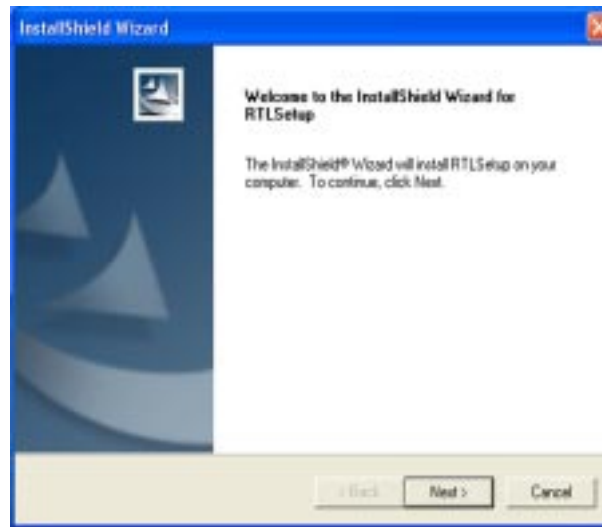


### 4-3 Intel LAN Driver Setup

1. Click "LAN Driver"



2. Click "Next" to start software installation



3. Click "Finish" to complete setup



## 4-4 C-media Audio Driver Setup

1. Click "Audio Driver"



2. Click "Audio Drivers"

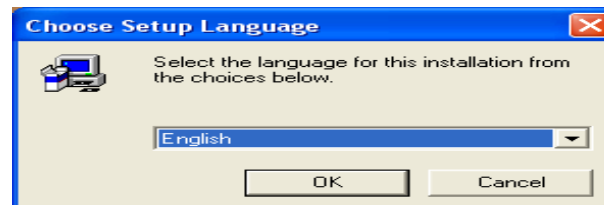




3. Click "Install Device Driver and Applications"



4. Choose setup language, click "OK"



5. Click "Next"



6. Click "Next"



7. Click "Next"



8. Click "OK" to restart and finish installation



9. Select channels according to your speakers



## 4-5 VGA Driver Setup

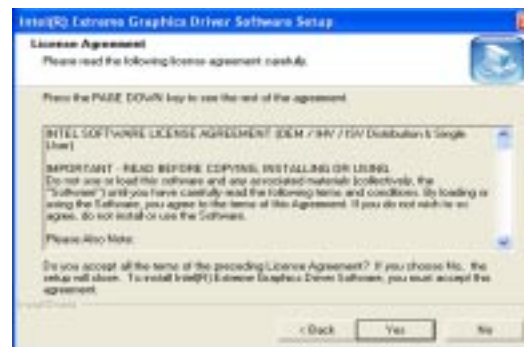
1. Click "Video Application"



2. Click "Next" to start the Extreme Graphics Driver Software setup



3. Click "Yes" to accept the license agreement



4. Select , click "Finish" to complete setup



## 4-6 USB 2.0 Driver Setup

### Windows 2000/XP Installation

1. Right click on "My Computer", select Properties
2. Open the Device Manager, double-click USB Host Controllers
3. Click "Update Driver" and point the installer to the USB 2.0 Driver folder.
4. The path for USB2.inf is CD-ROM drive : \INTEL\USB2\WIN2K\_XP
5. Install the system files.
6. The host controller should be installed correctly when the Device Manager is updated after installation.

## Appendix I

### On Board I/O Addresses & IRQ Maps

System Resource	IRQ	I/O Address
1. Timer	IRQ0	040, 043
2. Keyboard	IRQ1	060, 064
3. Programmable INT	IRQ2	0020, 0021, 00A0, 00A1
4. COM2(B)	IRQ3	2F8, 2FF
5. COM1(A)	IRQ4	3F8, 3FF
6. Floppy	IRQ6	3F0, 3F7
7. LPT1	IRQ7	378, 37F
8. Real Time Clock	IRQ8	070, 071
9. PS/2 Mouse	IRQ12	060, 064
10.Math coprocessor	IRQ13	0F0, 0FF
11.IDE 1	IRQ14	1F0, 1F7
12.IDE 2	IRQ15	170, 177

~~IRQ 5, 9, 10 and 11~~ are available for interface cards.

## Appendix II

### CBOX

Chaintech's CBOX (**Apogee only**) is a composite I/O ports for front-audio and front-USB. CBOX fits in any 3 1/2" drive bay and brings all of your most frequently used ports to the FRONT!!!



USB ports



Microphone in (mono).



Line-out Head phone or Body Theater (stereo)

- Easy to install in any standard 3-1/2" drive bay in just minutes!
- Four USB ports support the latest USB 2.0 that is 40 times faster than before!
- Plug in your headphone and microphone right at the front, trouble FREE!

#### CBOX Setup

1. Gently insert CBOX™ into the regular 3 1/2" drive bay at the front of system chassis and securely tighten the side screws.
2. Connect Mainboard to CBOX as follow:

**USB2.0:** Mainboard to CBOX

CN23	CN1
CN23A	CN2

**Front Audio:** Mainboard to CBOX

CN24	CN3
------	-----

**Note:** Remove the two jumper caps on CN24 from the mainboard before installation.

## Appendix III

### Body Theater™



CHAINTECH's exclusive Body Theater (**Apogee only**) provides you the true personal experience of surround sound with XeaR technology brought to you by C-Media!

- ❑ A Combination of XeaR and C3D technology, gives you simulated 6 channel sound to stimulate your PC!
- ❑ The ultimate enjoyment of surround sound with custom designed light-weight headphones brought to you by CHAINTECH!
- ❑ A simple installation and calibration lets you ROCK n ROLL with a few clicks only

#### Body Theater™ Setup

1. First, make sure [4 Channel] in the "Onboard CMedia Audio" option is selected. (By entering Phonex-AwardBIOS CMOS Setup menu, choose "Integrated Peripherals" and "On Chip PCI Device")
2. Activate CMedia Mixer, by clicking on the mixer icon at the bottom right corner of your desktop.



3. Click here

4. Select, [ Using Xear ] then click [ Apply ] and click [ OK ].



#### Note:

1. When Body Theater is in use and XeaR is activated, on the back panel of the mainboard, [ blue phone jack ] will be the front channel output and [ green phone jack ] will be rear channel output.
2. When front audio on CBOX is in use, both [ green phone jack ] and [ red phone jack ] on back panel of the mainboard will not operate.



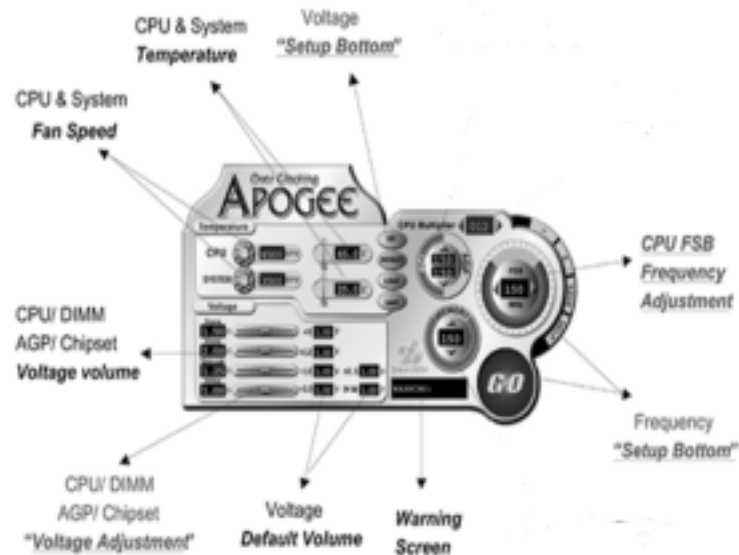
## Appendix IV

# Apogee Overclocking

CHAINTECH's Apogee exclusive overclocking & system-monitoring software lets you power up your system at ease!

1. Windows based, easy-to-use interface, suitable for novice and expert!
2. Maximize your system performance just a click away!
3. Featuring overclocking, voltage adjustment, temperature monitoring, fan speed monitoring, and more!

### Over-clocking Software Function



## Appendix V

### Round Cable

World first bundled Round Cable (Apogee only) brought to you by CHAINTECH, an innovative streamliner ribbon cable provides better overall system stability and neatness



- ❑ Clutter-free for easy installation!
- ❑ Improved air flow inside of your system chassis!
- ❑ Matching color lightens up your PC!

### CMedia Audio Subsystem

The CMedia 8738 offers a new generation PCI audio solution: it utilizes the state-of-the-art CRL® 3D Audio technology (HRTF 3D positional audio), and supports Microsoft® Direct Sound®3D and Aureal®'s A3D® interfaces. Better yet, it supports two/four/six speakers and DLS based (Down Loadable Sound) wave table music synthesizer which supports the Direct Music®.



#### Feature

- Advanced 64-voice wavetable synthesizer
- Programmable independent sample rate from 4KHz to 48KHz for record and playback
- Full-duplex operation for simultaneous recording and playback
- Supports MS DLS (Downloadable sample) level-1 technology with limitless variety of instrument samples using PC RAM
- Supports HRTF 3D positional audio with MSDS, DS3D, DirectMusic, Aureal A3D and Creative EAX (Environment Audio Extensions), C3DX APIs
- 4 or 6 (optional) channel speaker audio support for Home Theater environment
- Supports Fiber Optic module for Internet music, PC, and MD connections
- Supports MIDI and dual game ports
- Embedded 32OHM .5w earphone amplifier

#### Multi Speakers System

The CMedia 8738 Audio subsystem provides 3 wave channels (front/rear/center+bass), known as the multi speakers system (4 or 6 channel option). When games or application programs via DirectSoundR 3D or A3DR interface locate the sound sources to the listener's back, the two rear speakers will work to enhance the rear audio positional effect, so as to complement the insufficiency of using only two front speakers to emulate the audio effect.

---

## Speaker Setup

### Body Theater

1. Connect the Body Theater Headset to Line-out jack of the audio adapter at the back panel of your PC.
2. Connect a pair speakers to Line-in jack of the audio adapter at the back panel of your PC.

### 4 Channel Speakers

1. Connect the front pair speakers to Line-out of the audio jack at the back panel of your PC.
2. Connect the rear pair speakers to Line-in of the audio jack at the back panel of your PC.

**Note:** To enable this function, make sure that [4 channel] is selected in the Onboard CMedia Audio option of the BIOS setup program. By choosing the Integrated Peripherals option from the Standard CMOS Features menu (see Section 3-4).

### 5.1 Channel Speakers

1. Connect the front pair speakers to the Line-out of the audio jack at the back panel of your computer.
2. Connect rear pair speakers to the (optional) Surround / Center+Bass extension jack 2 (black )colored.
3. Connect the center+bass speakers to the (optional) Surround / Center+Bass extension jack 3 (orange )colored.

**Note:** To enable this function, make sure that [6 channel] is selected in the Onboard CMedia Audio option of the BIOS setup program. By choosing the Integrated Peripherals option from the Standard CMOS Features menu (see Section 3-4).



Back Panel Audio Jacks      Optional Surround/Center+Bass Extension Jacks

## Audio Device Application

### Support Windows 95/98/ME/NT4.0/2000/XP system.

[ Start ] ⇒ [ Program ] ⇒ [ PCI Audio Applications ] Include five icons:

1. Audio Rack :  
Include CD Player , MIDI Player , MP3 / Wave Player and Mixer control panel.
2. C3D HRTF Position Audio Demo : ( only support Windows 95 / 98 )  
Include C-media Audio Demo , sample game , readme and Web LINK.
3. Audio Environment Setting : ( only support Windows 95 / 98 )  
Setup SPDIF and Audio out, the same Mixer contents [ SETUP ].  
**\* [ Motherboard Audio device ] does not support [ SPDIF ]function.**
4. Multi-Channel Audio Demo :( Windows NT4.0 not support )  
Multi Channel Audio Demo program.
5. Uninstall Device Driver and Applications :  
Uninstall sound device Driver and Applications.

## Mixer Configuration

Please select icon located at button right corner, or [ Start ] ⇒ [ Program ] ⇒ [ PCI Audio Applications ] ⇒ [ Audio Rack ] ⇒ [ Mixer ].



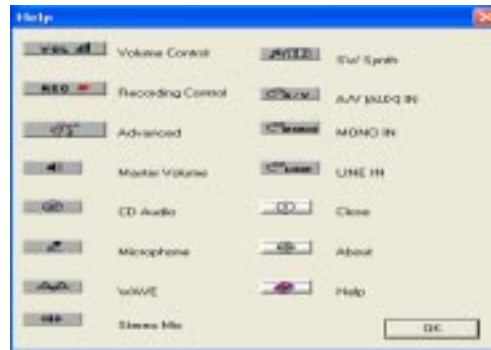
### 1. Mixer Volume Control :

This control includes main volume, CD, microphone, WAVE, MIDI, AUX IN, MONO IN, LINE IN, and input/output control.

### 2. Mixer Recording Control :

This control includes CD, microphone, WAVE, MIDI, AUX IN, LINE IN, SPDIF IN, and Echo.

3. [ Help ] :



4. Mixer Advance Setting :

(1) Speaker

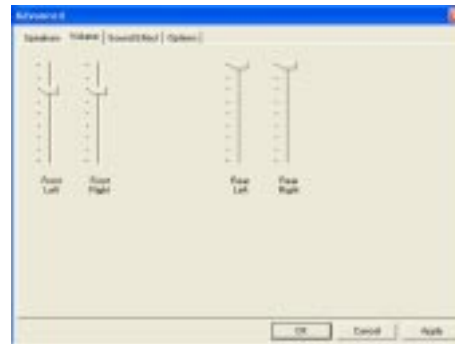
- ◆Select Headset, 2 channel, 4 channel or 5.1 channel speakers setup



- ◆Select Xear mode setup (Body Theater)



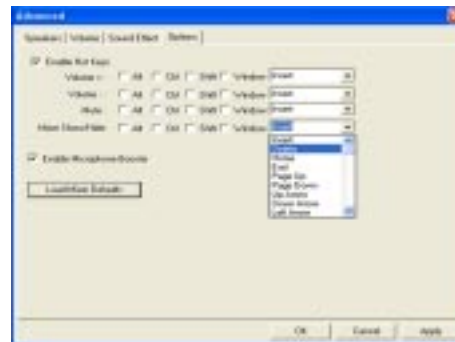
**(2) Volume :**



**(3) Sound Effect :**



**(4) Option :**



---

## CD Player Configuration



### 1. Settings Button :

- This function allows you to select a CD-ROM drive letter for your CD player.



### 2. Help Button :



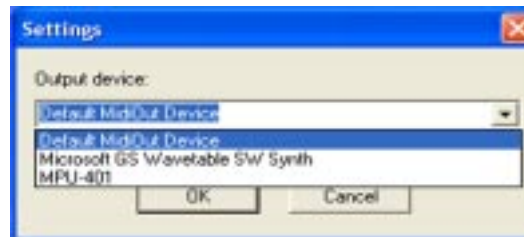


## MIDI Player Configuration

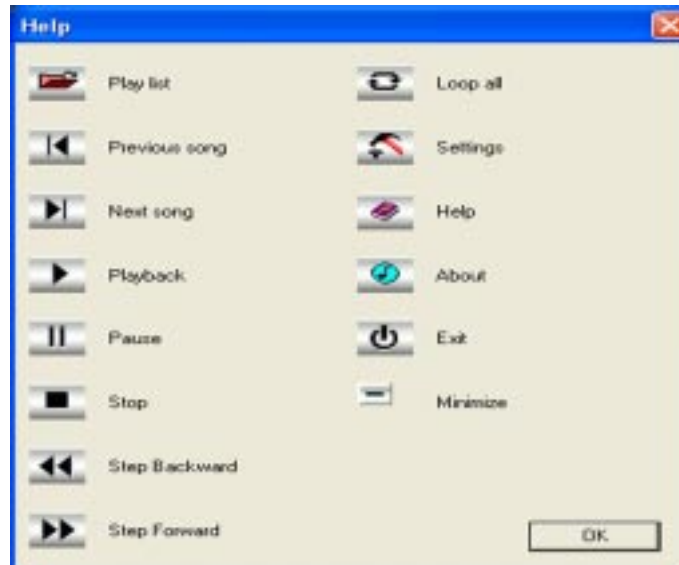


1.  **Setting Button :**

- This function allows you to select an output device for your MIDI player.



2.  **Help Button :**



---

## MP3 WAVE Player Configuration

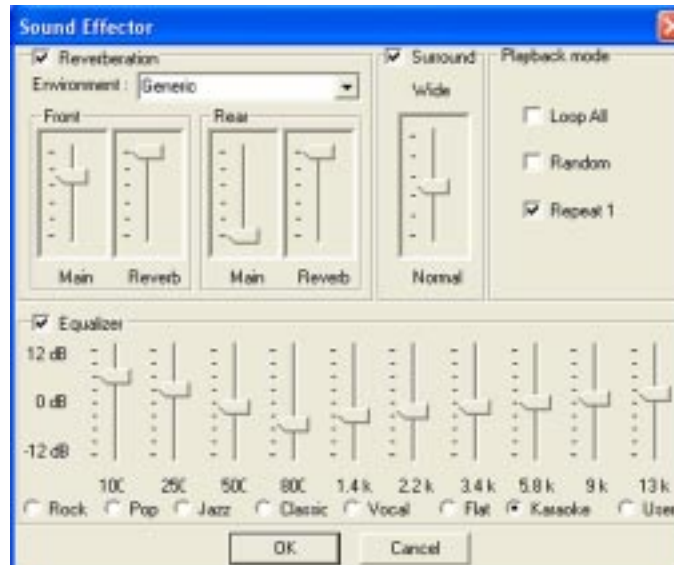


### 1. Setting Button :

- This function allows you to set the playback delay time for Mini -Disk recording.



### 2. Sound Effect Setting Button :



1.  **Recording Button :**

**Recording Format :**

To setup recording format as in following 3 selections: **CD Quality**, **Radio Quality**, and **Telephone Quality**. [ **CD Quality is default** ].

- Format : Only PCM format is available while recording with audio card.
- Attribute : To setup recording quality, default is 44.100 kHz 16Bits Stereo 172 kb/sec.
- Simultaneous Recording : To select CD & MIDI playback program

2.  **Help Button :**



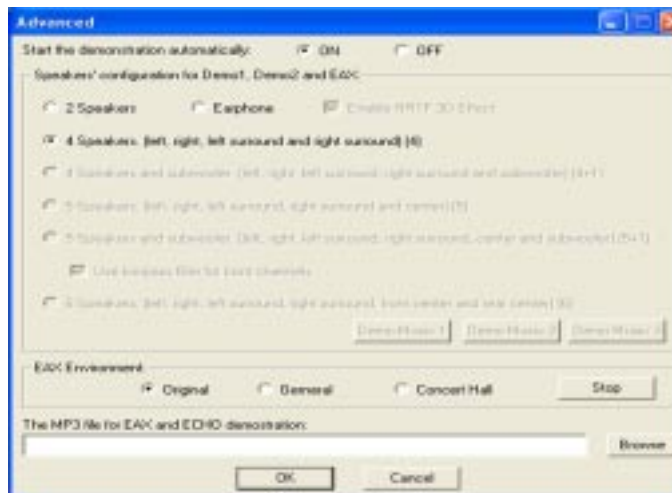
---

## Multi-Channel Demo

Click [Start] ⇒ [Program] ⇒ [PCI Audio Applications] ⇒ [Multi-Channel Demo]



1. Click on the widescreen TV in the center of the menu to enter [ **Advanced** ] screen.



2. In Advanced mode, here you can configure the speaker and EAX environment according to your system hardware or personal preference.

## Appendix VII

### THIZ LINUX

#### THIZ LINUX bundle with fully built-in application!

##### Leading edge technology that brings you the most powerful enjoyment !

Thiz Linux Desktop 6.0, based on the pioneering technology used in Thiz Linux Desktop 5.0, enhancing a variety of new function that would absolutely brings you a more stable, advanced and easy-to use platform enjoyment.



- ◆ THIZ Office Suite, a complete set of office tools lets you work with most of MS Office documents!
- ◆ Enhanced multimedia functions which record and play MP3, MAV, Audio CD, VCD, and even create a CD at your finger tips!
- ◆ Easy-to-install, network capable, and most of all, multi-language!

#### To use Thiz Linux Desktop 6.0, you need:

- A PC with Intel Pentium II or higher processor; or X86-compatible processor such as AMD Duron, Athlon (Pentium III 800MHz or the equivalent recommended);
- Minimum 64MB of memory (128MB or above recommended);
- Minimum 1.6GB hard disk space (over 2GB or more recommended);
- A CD-ROM drive
- A VESA 2.0 standard display card

**\*Note:** Actual requirements will vary based on your system configuration and on what features you choose to install.

#### Installation Overview

- Thiz Linux Desktop 6.0 installation program will run automatically and detect the hardware configurations on your computer and installs the hardware drivers. The process is straightforward and convenient.
- Thiz Linux can be installed as a stand-alone system and becomes the sole operating system platform, or co-exist with other operating systems.

- ❑ If you need to install more than one operating system on your computer, we suggest you to install other systems before Thiz Linux, as Thiz Linux will use up all free disk space as default in automatic partitioning with no space left for other operating systems.
- ❑ Since installing Thiz Linux Desktop 6.0 may require hard disk partitioning, which may affect existing data on the hard disk, please be very careful about the installation configuration and hard disk partitioning.

## Getting Started

1. Starting the CD-ROM.
2. Insert Thiz Linux 6.0 CD-ROM into the CD-ROM driver and switch on the computer.
3. Select the required installation mode from the screen as shown below:

**Mode Selection : [Graphical Mode] [Simple Mode] [Text Mode] [Special Mode]**

```

Welcome to Thiz Linux 6.0!

- To install Thiz Linux in graphical mode, type: linux (ENTER).
- To enter special mode, type: special (ENTER).
- Simple mode for English, type: en (ENTER).
- Simple mode for French, type: fr (ENTER).
- Simple mode for German, type: de (ENTER).
- Simple mode for Italian, type: it (ENTER).
- Simple mode for Portuguese, type: pt_PT (ENTER).
- Simple mode for Brazilian Portuguese, type: pt_BR (ENTER).
- Simple mode for Russian, type: ru (ENTER).
- Simple mode for Spanish, type: es (ENTER).
- All modes except special mode by default will use graphical mode.
  Append text to use text mode installation.

[0] Main [1] General [2] Expert [3] Normal [4] Special
boot:
  
```

### 1. Graphical Mode

1. Users can type [ linux ] and press [ Enter ] on the Boot-up Screen to enter the [ Graphical Mode ] installation as shown in the graph below:



2. Select the language for the installation program and then, press [ **Next** ].



On the left hand side of the screen, you will find the [ **Online Help** ] to various steps during installation. If you want to hide it in order to free more space to the main frame, you can click on the [ **Hide Help** ] button at the bottom left hand corner. If need be, you can call back [ **Online Help** ] by clicking on the " Show Help"button.

3. Configure the keyboard and then, press [ **Next** ]. Users can use the default value under normal situation.



4. This LINUX "**Welcome**" page of the installation program will appeared, press "**OK**" to proceed.

5. Select the suitable disk partitioning strategy.

**Note:** Please select carefully since disk partitioning may delete existing data.



The system provides three ways of partitioning, they are:

- (1) Have the installer automatically partition for you
- (2) Manually partition with Disk Druid
- (3) Manually partition with fdisk [ experts only ]

Press [ **Next** ] to proceed.

**(1) Have the installer automatically partition for you**



Please select how to allocate hard disk space from the following items:

Partition Methods	Descriptions
Remove all Linux Partitions on this system	Installer will remove all Linux partitions on the system, while retaining partitions with other operating systems.
Remove all partitions on this system	Installer will remove all partitions on the system that means there will only be Thiz Linux Desktop 6.0 in the hard disk.
Keep all partitions and use existing free space	If Installer will install Thiz Linux in any free space on the hard disk which has not yet been used by any partitions. If there is no space available on the hard disk, the system will reboot.



## (2) Manually partition with Disk Druid



On the top of the screen shows the present disk partitioning situation.

You can, at this step, use [ **New** ], [ **Edit** ], [ **Delete** ] and [ **Reset** ] to change the hard disk partitions.

### 1. **New:**

Press [ **New** ] to enter information of the new partitions:



Information	Descriptions
Mount Point	Select to which system directory will this partition be mounted.
File system Type	There are many file types available: File types which will be used in Linux include ext2, ext3, reiserfs, software RAID, vfat and swap.ext2 has long been used as a Linux file system. ext3 and reiserfs are journaling file system. Even if the computer is shut down improperly, the journaling file system can resume the file system quickly. There is no more waiting for hard disk scanning
Allowable Drives	Select in which hard disk will this partition be put.
Size (MB)	Set the size of this partition.
Fixed size	Fix the size of this partition.
Fill all space up to (MB)	Ignore the value of [ Size ]. The size of this partition will be the entered value minus all free space on the hard disk.
Fill to maximum allowable size	Ignore the value of [ Size ] The size of this partition will be all free space on the hard disk.
Force to be a primary partition	Set this partition as the primary partition. This option is for experts only, for the number of primary partitions on one hard disk should not exceed four.
Check for bad blocks	Check whether there are any bad blocks on the hard disk during formatting. Choosing this option will greatly increase the time for hard disk formatting.

**Note:** Under normal situation, there should be at least three partitions for Thiz Linux

Desktop:

- The size of [ /boot ] should be at least 20MB
- The size of [ / ] should be at least 1600MB
- Swap - this is a partition for virtual memory. The suggested size is 256 MB.



**Edit:** Users can use [ **Edit** ] to change the settings for the required partitions. This includes changing the partition's mount point and changing the file format from ext2 to ext3.

**Delete:** Select a partition and press [ **Delete** ] to remove it.

**Reset:** Return the partition settings to its original state.

**Make Raid:** This is to create software RAID. [**experts only**]

### (3) Manually partition with fdisk



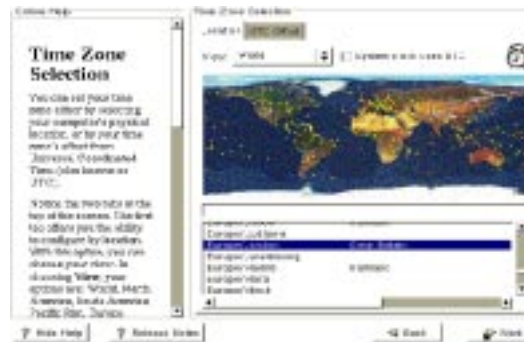
**Note :** fdisk is a hard disk partitioning tool in Text Mode. Its functions are stronger than that of Disk Druid. Don't select this option unless you are already familiar with fdisk.

1. Select the hard disk to be partitioned, Press "Next" to proceed.
2. Select the languages supports (for the system)and then, Press "Next" to proceed.



In this step, you can select which languages the system will support. You can select the required languages in the list with your mouse (multiple options possible), or click on [ **Select All** ] to select all languages. Then select the default language for the system from the [ **Select default language for the system** ] pull-down menu on the right. Selection of all languages recommended.

3. Select the time zone of your location, Press "Next" to proceed.



4. Select the languages supports (for the system), Press "Next" to proceed.

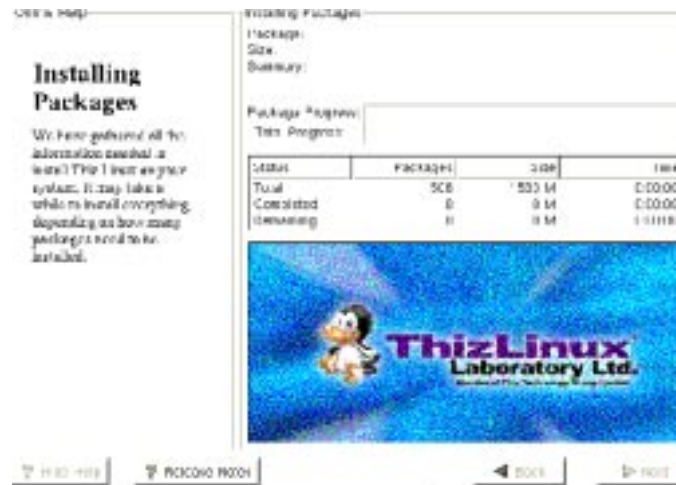


**Note:** Since increasing or reducing the number of packages to be installed may lead to the problem of compatibility, we don't recommend users to select these options.

5. Start the installation process, Press "Next" to proceed.



6. Start the [ **Installing Packages** ], Press "Next" and follow the instructions on screen to finish installation.



The screen will show the progress of formatting and installation, and the time left. Please wait for the installation program to complete.

**Congratulations!** Thiz Linux Desktop has been successfully installed.

7. Now, please press [ Exit ] to leave the installation program, and withdraw the installation disk from the CD-ROM driver to restart the computer.
8. The system will carry out the first login configuration.
9. Then you will see the login page; please type in the default login data:

**Login name: root**  
**Password: thiz**

10. Click on [ Begin ] to enter Thiz Linux desktop environment.



### 3. Text Mode

There are two types of Text Mode Installation **A.** [ **Manual Installation** ] in which users set their own installation contents ;and **B.** [ **Automatic Installation** ] in which the system set up the configuration automatically.

#### **A . [Manual Installation]**

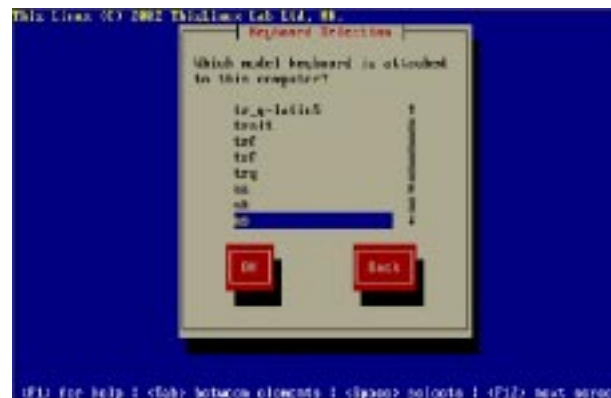
##### 1. Selecting the interface language

After entering the Text Mode manual installation, you will see the following screen. The system will ask users to select the language displayed for the installation program.



##### 2. Keyboard Selection

Then users have to select keyboard type for the computer.



Select the type of keyboard you are using. Since the system will auto-detect the keyboard in use, users only need to press "Next" in normal situation.

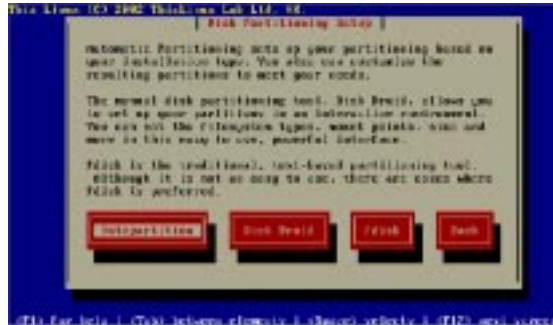
### 3. Welcome

When Thiz Linux installation program are being in use, The screen will show this welcome address. Press "OK" to proceed. (Fig: text-welcome.gif)

### 4. Disk Partitioning Setup

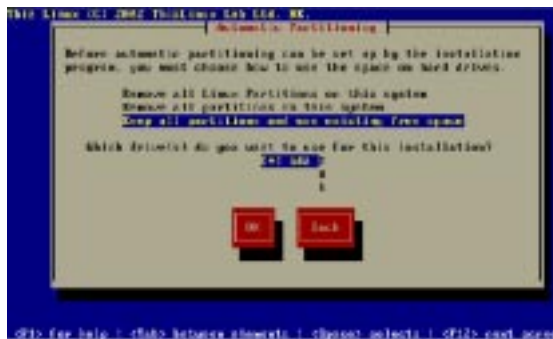
The system provides three ways of partitioning. They are:

- ◆ Autopartition
- ◆ Disk Druid
- ◆ fdisk



#### ◆ Autopartition

If selecting [ **Autopartition** ], you will see the following screen:

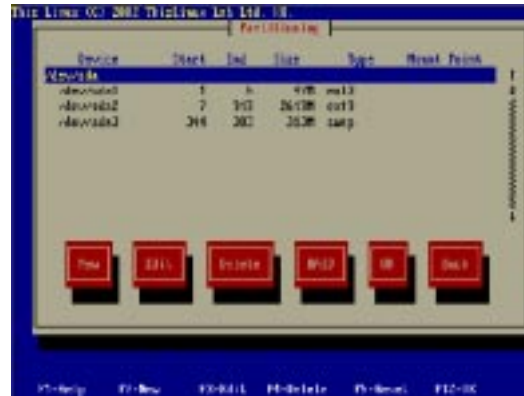


Partition Methods	Descriptions
Remove all Linux Partitions on this system	Installer will remove all Linux partitions on the system, while retaining partitions with other operating systems.
Remove all partitions on this system	Installer will remove all partitions on the system that means there will only be Thiz Linux Desktop 6.0 in the hard disk.
Keep all partitions and use existing free space	If Installer will install Thiz Linux in any free space on the hard disk which has not yet been used by any partitions. If there is no space available on the hard disk, the system will reboot.



◆ **Disk Druid**

If selecting [ **Disk Druid** ], you will see the following screen:



On the top of the screen shows the present hard disk partitioning situation. You can select [ **New** ], [ **Edit** ] or [ **Delete** ] to change the partitioning.

◆ **New**

If pressing [ **New** ], the following screen will be shown. Please enter data for the new partition.



Information	Descriptions
Mount Point	Select to which system directory will this partition be mounted.
File system Type	There are many file types available: File types which v be used in Linux include ext2, ext3, reiserfs, software RAID, vfat and swap.ext2 has long been used as a Lin file system. ext3 and reiserfs are journaling file system Even if the computer is shut down improperly, the journaling file system can resume the file system quick There is no more waiting for hard disk scanning
Allowable Drives	Select in which hard disk will this partition be put.
Size (MB)	Set the size of this partition.
Fixed size	Fix the size of this partition.
Fill all space up to (MB)	Ignore the value of [ Size ]. The size of this partition w the entered value minus all free space on the hard dis
Fill to maximum allowable size	Ignore the value of [ Size ] The size of this partition wi all free space on the hard disk.
Force to be a primary partition	Set this partition as the primary partition. This option is experts only, for the number of primary partitions on o hard disk should not exceed four.
Check for bad blocks	Check whether there are any bad blocks on the hard d during formatting. Choosing this option will greatly increase the time for hard disk formatting.

**Note:** Under normal situation, there should be at least three partitions for Thiz Linux Desktop:

- The size of [ /boot ] should be at least 20MB
- The size of [ / ] should be at least 1600MB
- Swap - this is a partition for virtual memory. The suggested size is 256 MB.

#### ◆ Edit

Users can use the [ **Edit** ] function to change the required partition settings, including the mount point and the changing from ext2 to ext3.



◆ **Delete**

If you want to delete a partition, select the target partition and press [ **Delete** ].

◆ **RAID**

[ **RAID** ] is for the creation of software RAID. This is not recommended for normal users.

\end {enumerate}

◆ **fdisk**

Select [ **fdisk** ] to select the hard disk to be partitioned according to your need.

**Note** : fdisk is a hard disk partitioning tool in Text Mode. Its function is stronger than that of Disk Druid. We don't recommend it to normal users, unless you are familiar with fdisk. Press [ **OK** ] to proceed when finished.

5. Language Support

Select which languages the system will support. You can use [ **Space** ] to select the required languages (Multiple options permitted), or press [ **Select All** ] to select all the languages. Press [ **OK** ] to proceed.



**Note:** We recommend users to select all languages.

---

## 6. Default Language

Select in this page the default language for the system, press [ **OK** ] to proceed.



## 7. Time Zone Selection

Select the time zone of your location, press [ **Next** ] to proceed.



## 8. Package Group Selection

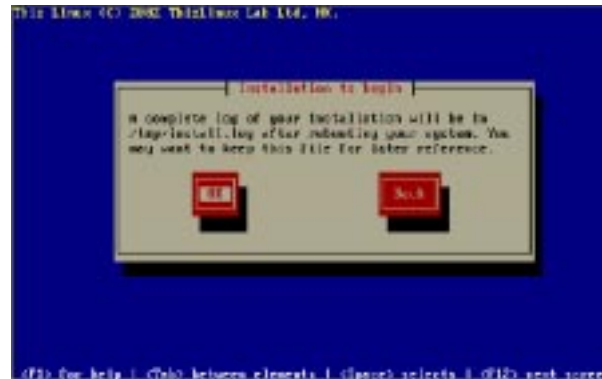
The software may not be necessary to normal desktop computers, therefore, users can press [ **OK** ] directly to proceed.



**Note:** The more packages you select, the hard disk space is required. If need be, you can check for the size of the selected packages at the bottom of the screen.

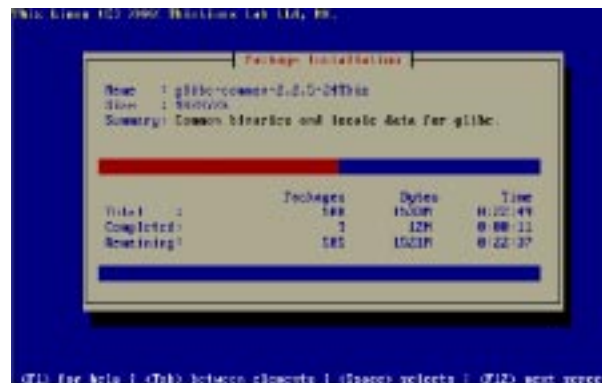
9. Installation to Begin

After all installation settings are done, users will see the above screen indicating that installation can begin. Press [ **OK** ] to begin installing software.



10. Installation in Progress

The screen is showing the installation progress, the time left and software package under installation.



11. Installation Completed

After the installation is completed, please press [ **OK** ] to reboot the system and withdraw the installation CD-ROM. The system will carry out the first login settings. Then you will see the login page, type in the default login data:

**Login : root**

**Password : thiz**

12. Click on [ **Start** ] to enter Thiz Linux desktop environment.

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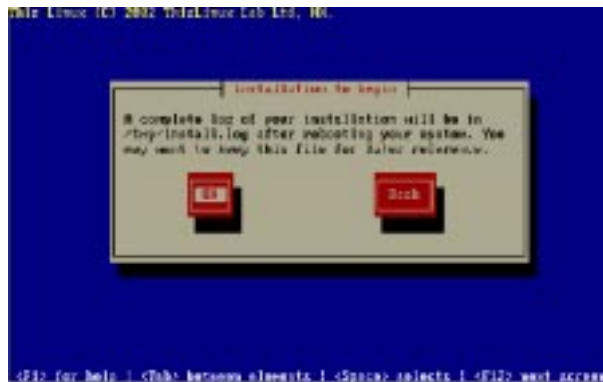
## B . [Automatic Installation]

1. If selecting the Simple Mode installation, you will see the following screen. Press [ **OK** ], and you will see the following screen.

**Note :** If using the Simple Mode installation, all Linux partitions on the hard disk and the data on them will be removed.



2. Press [ **OK** ] Thiz Linux will be installed onto the hard disk immediately.



3. After the installation is completed, please press [ **OK** ] to reboot the system and withdraw the installation CD-ROM. The system will carry out the first login settings. Then you will see the login page, type in the default login data:

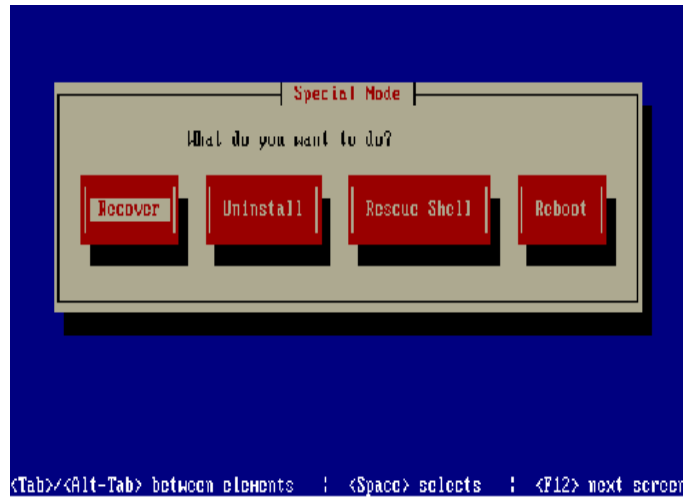
**Login : root**

**Password : thiz**

4. Click on [ **Start** ] to enter Thiz Linux desktop environment.

## 4. Special Mode

1. Enter [ **special** ] in the boot-up screen, select the language interface ( English is recommended ) and keyboard ( normally set as [ **us** ] ), then press [ **OK** ] to proceed.



2. After entering the Special Mode, please select one of the four modes, including: Recover, Uninstall, Rescue Shell or Reboot mode.