KIS-PDRCA
User's Guide

RIOWORKS™

The Reliable Building Block

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Contents

Overview

Thank you for choosing RIOWORKS™ KIS-PDRCA high performance motherboard. The KIS-PDRCA supports dual Intel Socket-604 Xeon (Prestonia) at 533 MHz Front Side Bus (FSB), based on Socket-604 motherboard and the SSI form factor featuring the ServerWorks chipset. The latest ServerWorks chipset is built in the motherboard. The KIS-PDRCA's 4 DIMM slots support up to 4GB of main memory complete with registered ECC functioning available. One more advantage is that the KIS-PDRCA provides three IDE channels for further device expansibility.
Flexibility and expandability are have always been main concerns of RIOWORKS™. The KIS-PDRCA contains a total of 4 PCI 64-bit slots and 1 PCI 32-bit slot all supporting 3.3v. Other features such as the single Intel 82540EM Gigabit Ethernet controller provides high performance that meets a wide range of Server application demands.

Unpacking

Remove everything from the box and ensure you identify the following items. If you discover damaged or missing items, please contact your retailer.

- One RIOWORKS KIS-PDRCA motherboard
- One 80-wire ATA-100 ribbon cable
- One floppy ribbon cable
- One bag of spare jumpers
- One KIS-PDRCA I/O shield
- One CD containing drivers and utilities
- One KIS-PDRCA user' s guide (This manual)
- One onboard LAN User' s Guide

Features

CPU	▪ Dual Intel Socket-604 Xeon (Prestonia) CPU at 533 MHz Front Side Bus (FSB) ▪ Supports up to 2.8 GHz and plus ▪ Designed for Socket-604 technology.
VRM Support	▪ Supports VRM 9.1 specification.
Chipset	▪ ServerWorks Grand Champion SL
System Memory Support	▪ 4 DIMM slots for DDR200/266 SDRAM ▪ Support up to 4GB registered memory ▪ Registered DIMM Module Support Only
BIOS	▪ Phoenix BIOS on 4Mb flash EEPROM ▪ Supports IDE CD-ROM boot-up. ▪ I2C support ▪ SMBIOS 2.3 compliant ▪ DMI 2.1 compliant ▪ Soft power-down ▪ Secure Boot ▪ Multiple Boot support
IDE	▪ Onboard PCI Bus Master IDE controller provides three IDE connectors for up to 6 IDE devices. ▪ Supports Ultra DMA modes 100/66/33.
Software RAID	▪ Supports software RAID level 0 or 1 [optional]
LAN Controller	▪ Single Intel Gigabit Ethernet controller
Wake-On-LAN	▪ Supports Wake-On-LAN activity with onboard Intel Gigabit Ethernet controller.

VGA Controller	▪ Integrated ATI RageXL video controller with 8MB memory, however this is not upgradeable
Expansion Slots	▪ Four PCI-64bit/33MHz slots ▪ One PCI-32 bit/33MHz slot
Super Multi-I/O	▪ Two serial port with UART 16550 (1 by extension serial header) ▪ One 15-pin VGA port ▪ One parallel port with ECP/EPP support ▪ Two onboard USB 1.1 connectors with 1 header for extra 2 USB ports ▪ PS/2 mouse and keyboard connectors with Wake-Up function
Enhanced ACPI	▪ Fully implements the ACPI standard for Windows 2000 compatibility.
Desktop Management Interface (DMI)	▪ Supports DMI through BIOS, which allows hardware to communicate within a standard protocol creating a higher level of compatibility
Server Management	▪ RIOWORKS SmartWatch™ Server Management Application
Dimensions	▪ 12" x 11.4"

About This User Guide

This manual explains how to build your system with a KIS-PDRCA in detail. Please follow the procedures of this User Manual carefully and pay special attention to these icons.

 **IMPORTANT**

This icon informs you of particularly important details regarding the setup and maintenance of your system. While we point out the most vital sections in each chapter, you should always read every word carefully. Not following the directions carefully could cause unwanted results.

 **WARNING**

This icon alerts you to potential dangers while setting up your system with the KIS-PDRCA. These warnings should not be regarded as comprehensive. Never forget that computers are electronic devices and are capable of delivering electric shock. Prevent damage to yourself and to your board: always ensure that your system is turned off and that the power cords are unplugged whenever you are working on it.

 **NOTE**

This icon provides you with useful notes for setting up your system.

 **TIP**

This icon gives you useful tips on how to configure your system with the KIS-PDRCA using easy to understand instructions.

Getting Help

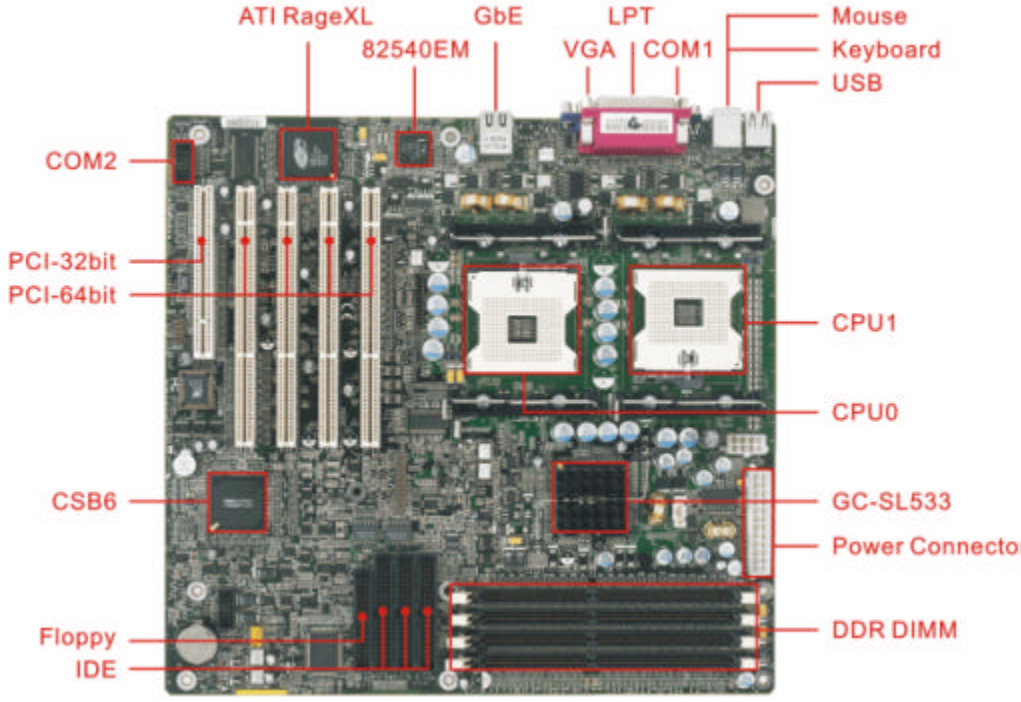
If a problem arises with your system during installation during operation of the OS, first contact your dealer for help as they have configured your system most likely. They should always have the best ideas and quickest response for solving your problems. If your dealer is located nearby, bring your system in to have it quickly serviced instead of attempting to solve the problems by yourself. In addition to these recommendations, RIOWORKS™ also provides helpful support to assist you.

1. Select RIOWORKS™'s website at www.rioworks.com and navigate to the page of this product which contains links to product updates such as Jumper and BIOS settings.

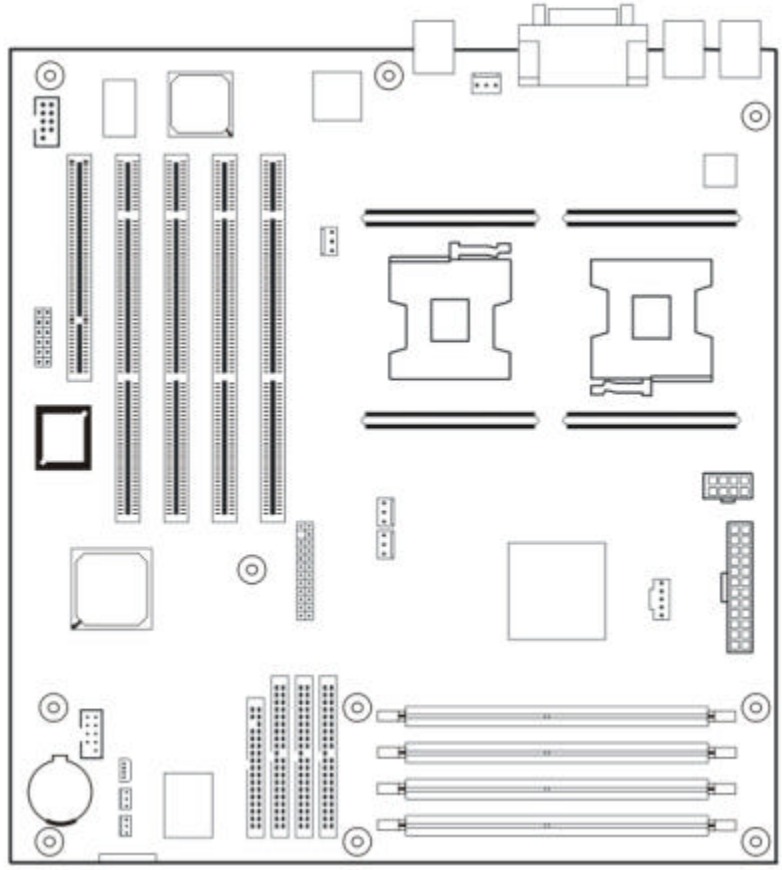
2. FAQ sections on RIOWORKS'™ website are often helpful since many others may have the same questions as yourself.

3. Email us at: sales@rioworks.com and we will do our best to answer your questions within 24 hours. Before you email your questions, please fill in a form to give our engineers time to review your problem so they are able to service in a more expedient manner.

KIS-PDRCA Motherboard (Picture)



KIS-PDRCA Motherboard (Layout)



Chapter 1

Hardware Installation

This chapter goes into detail regarding the installation of the KIS-PDRCA with processors and other hardware in your system.

Installation Procedures

The installation procedures are broken down into six major parts.

Step 1: Jumper settings
Step 2: Memory Installation (Registered DDR DIMM Module)
Step 3: Intel Socket-604 Xeon (Prestonia) CPU Installation
Step 4: Attaching Cables to Connectors
Step 5: Expansion Cards Installation
Step 6: Power connection

Warning

This motherboard contains sensitive electronic components that can be easily damaged by static electricity. It is best to avoid carpeted floors while assembling and make sure your body is properly grounded or you should consider wearing a static wristband. Follow the instructions carefully to ensure correct installation and to avoid static damage. Static charges traveling through your body will easily fry your brand new motherboard.

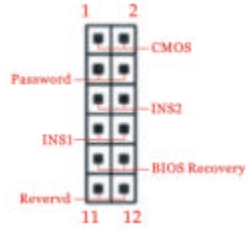
Step 1.

Jumper Settings

You will find two jumpers you can use to change the settings on the motherboard.

1. Clear Real Time Clock (RTC) RAM

The onboard button cell battery powers the CMOS RAM, which contains all the BIOS setup information. If the motherboard does not boot correctly, you may need to clear the CMOS setting. Please follow the steps below.



Note

If you would like to clear the RTC data, please follow these steps:

(1) Shut down your computer properly.
(2) Use the jumper to short pins 1 and 2.
(3) Power on your system with the button on the front panel
(4) Press <F2> when screen display “8150: NVRAM Cleared By Jumper”.
(5) Press <F9> to load BIOS default settings.
(6) Go <Main> menu and enter Processor settings to Reset.
(7) While in Processor settings, select RESET for resetting processor.
(8) Go <Advance> menu and enter Memory Configuration.

(9) While in Memory Configuration, select YES for Memory Retest.
(10) Remove jumper on pin 1 and 2 while system power remain on.
(11) Press <F10> save and exit.

Step 2

Memory Installation

KIS-PDRCA uses 184-pin Double Data Rate (DDR) Inline Memory Modules (DIMM). Four DIMM slots are available for 2.5 Volts (power level), PC2100, registered DDR DRAM Modules come in 1MB, 2MB, 4MB, 8MB, 16MB, 32MB, 64MB, 128MB, 256MB, 512MB and 1GB combinations. Memory can support up to 4GB memory size.

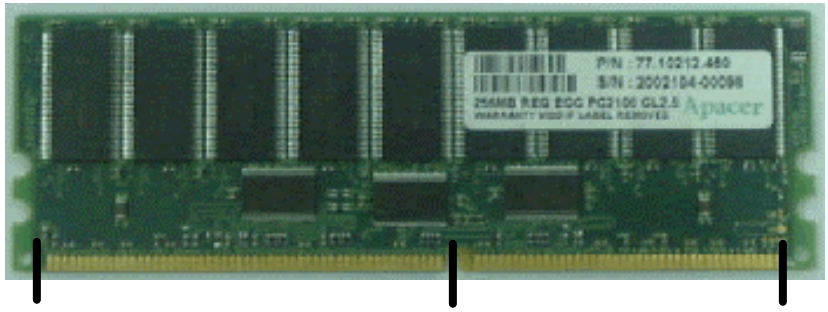
IMPORTANT

- **PC2100 registered DDR DRAM Module Support Only. The system will not be able to boot up if non-compliant modules are used.**
- **4 slots support up to 4 GB of registered DDR DIMM Modules.**

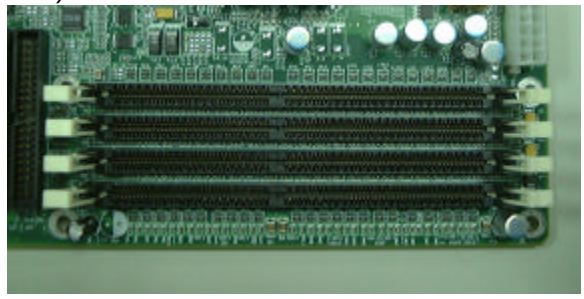
Memory Installation Procedures

1. Locate the DIMM modules on the KIS-PDRCA:

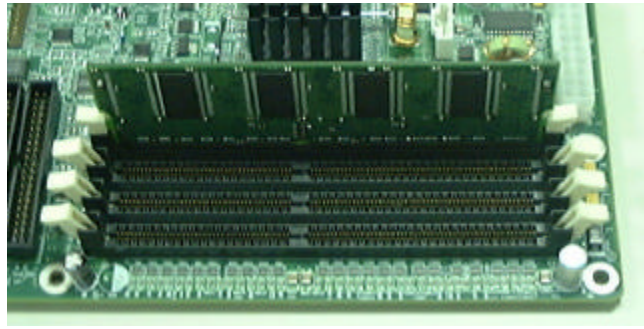
2. Ensure when inserting the DIMM module that the pins face down and match the slot' s size as pictured here:



3. Use both hands to insert the module into the DIMM slot pressing down firmly until the DIMM module is securely in place. (The tabs of the slot will close-up holding the DIMM in place when it touches the bottom.)



4. Repeat steps 1 to 3 to add the additional DIMM modules.



WARNING

Support is provided only for PC2100 Registered DDR DRAM Modules.

Step 3

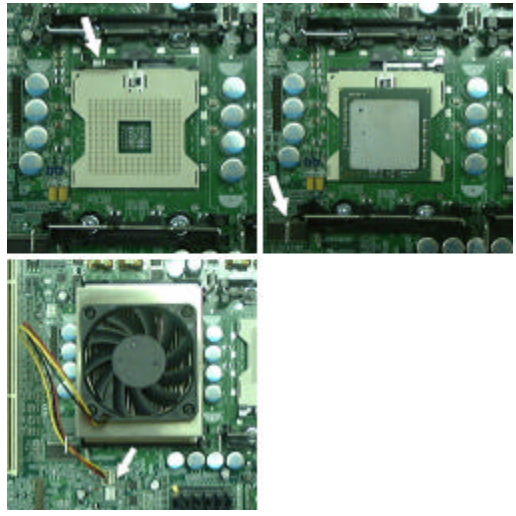
CPU Installation

KIS-PDRCA supports dual Xeon (Socket-604) at 533 MHz Front Side Bus (FSB).

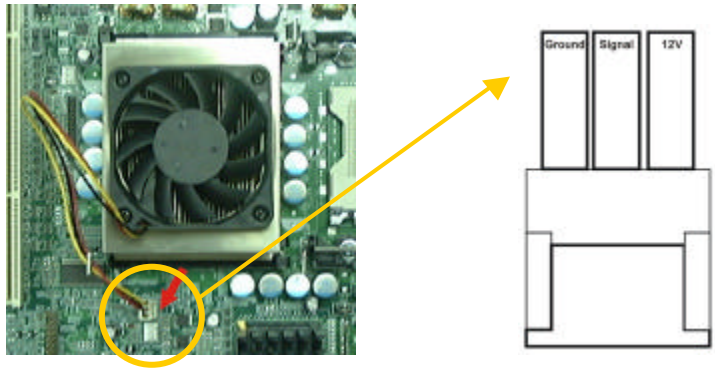
CPU Installation Procedures

1. Lift the socket lever up and carefully install the Socket-604 Xeon (Prestonia) CPU making sure it is aligned as shown in the pictures below.

2. Mount the CPU heatsink with the proper exproxy as below.



3. Secure the CPU heatsink with the locks and plug the 3-wire fan power core into the connector named CPU FAN1.



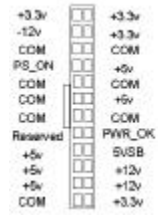
4. Repeat Steps 1-3 for second CPU

Step 4.

Attaching Cables to Connectors

This step explains where each connector is inserted onto the KIS-PDRCA. There will be a KIS-PDRCA layout picture following each explanation indicating where the connectors are to be inserted. The motherboard connectors are:

Item	Connectors	Page
1	ATX Power Supply	1-9
2	Floppy Disk Drive Connector	1-9
3	IDE Connectors	1-10
4	Extension Serial Port COM 2 Connector	1-10
5	System Power LED	1-11
6	Hard Disk LED	1-11
7	Power Switch	1-11
8	Reset Switch	1-11
9	TSLP Switch	1-11
10	LAN LED	1-11
11	CMOS	1-12
12	Password	1-12
13	INS	1-12
14	FANs	1-12
15	PS/2 Keyboard and Mouse Connectors	1-13
16	USB ports	1-13
17	Serial Port COM1 Connector	1-13
18	VGA Port	1-13
19	Printer Port LPT1	1-13
20	LAN Port	1-14



1. ATX Power Supply (24-pin ATX power connector)

This connector connects to the ATX power supply. Properly align the connector and push down firmly once you have ensured that the pins are aligned correctly.

2. Floppy Disk Drive Connector

This connector supports the provided floppy disk drive ribbon cable. After connecting the single end to the board, connect the plug on the other end to the floppy drive. Notice the red line on the side of the cabling: be sure to align this properly when you plug it in.

3. Primary/Secondary/Tertiary IDE connectors

The connectors support the provided 80-wire 40-pin IDE hard disk ribbon cable. After connecting the single end to the board, connect the two plugs at the other end to your hard disk(s). If you install two hard disks or a CD-Rom drive using the same cable, you must configure the second drive to Slave mode by setting its jumper accordingly. Please refer to the documentation of your hard disk for the jumper settings. BIOS supports IDE HDD or IDE CD-ROM boot up (if using ribbon cables with pin 20, pin 20 is removed to prevent incorrect or misaligned insertion).

IMPORTANT

- **Ribbon cables should always be connected with the red stripe on the Pin 1 side of the connector. IDE ribbon cables must be less than 46cm (18 inches), with the second drive connector no more than 15cm (6 inches) from the first connector**.

4. Extension Serial Port COM2 (9-pin)

This 9-pin connector allows connecting an extra serial port (COM2) out from the motherboard.

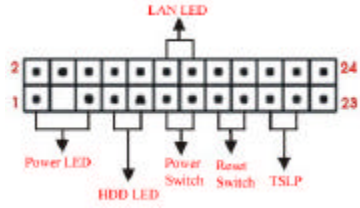


Figure 4-1

The following items are depicted in Figure 4-1 above.

5. System Power LED (3-pin PWR_LED)

This 3-pin connector connects the system power LED, which lights up when the system is powered on and blinks when it is in sleep mode.

6. Hard Disk Activity LED (2-pin HDD_LED)

This connector supplies power to the hard disk or IDE activity LED. Read and write activity by devices connected to the Primary or Secondary IDE connectors will cause this LED to light up.

7. Power Switch

A momentary switch connected to these connector controls the system power. Pressing the button once will switch the system between ON and SLEEP. The system power LED shows the status of the system' s power.

8. Reset Switch (2-pin RST)

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

9. TSLP SW - Standby mode

This connector allows your computer to enter standby mode with the press of a button.

10. LAN LED Status

This connector allows you to connect front panel LED to show LAN status.

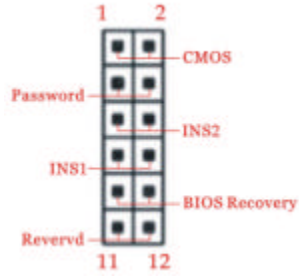


Figure 4-2

The following section covers the jumper cap for resetting to defaults:

11. CMOS

Found on pins 1 & 2. Once you have done BIOS change and it would not boot up again, you may choose to clear the CMOS setting to factory default.

12. Password

Found on pins 3-4. This is to disable the password protection on BIOS.

13. INS

Pins 5, 6 and 7, 8. These jumpers are for chassis intrusion monitor. The hardware monitor is triggered when chassis' micro-switch is opened. This occurs when the side panel is opened or driver bay door is opened.

14. CPU and Aux Fan Connectors (six 3-pin FAN connectors)

There are six 3-pin fan connectors in the KIS-PDRCA M/B. Two fans are used for CPU1 and CPU2, two are located at the font and two in the back for driving airflow across the motherboard. These connectors support cooling fans of 500mA (6W) or less. Depending on the fan manufacturer, the wiring and plugs may be different. Red wires should be positive and black grounded.

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

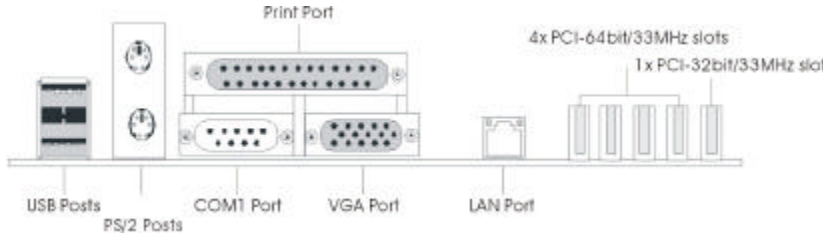


Figure 4-3

15. PS/2 Ports for Keyboard and Mouse (6-pin Female)
The system will direct IRQ12 to the PS/2 mouse if one is detected. If not, expansion cards can use IRQ12.

16. USB Ports
Two external USB ports are available for connecting USB devices. But a user can only use two of them with proper cabling for connecting the USB.

17. Serial Port COM1
The serial port COM1 can be used for pointing devices or other serial devices. See the BIOS Setup.

18. VGA Port
The 15-pin VGA port connects to CRT or LCD monitor by motherboard integrated ATI RageXL video controller with 8MB memory.

19. Printer Port
You can enable the parallel port and choose the IRQ through the

BIOS Setup.

20. LAN Port

The Intel 82540 Gigabit Ethernet controller consists of both the Media Access Controller (MAC) and Physical Layer (PHY). Please refer to the "Onboard LAN User Guide" for further information.

WARNING

- **The CPU and/or motherboard will overheat if there is not enough airflow across the CPU and onboard heatsink. Damage may occur to the motherboard and/or the CPU fan if these pins are incorrectly used. These are not jumpers; do not place jumper caps over these pins.**

Step 5.

Expansion Cards Installation

 WARNING

- **Power off your power supply completely when adding or removing any expansion cards or other system components. Failure to do so may cause severe damage to both your motherboard and expansion cards**.

1. Expansion Card Installation Procedure

1.1 Read the documentation for your expansion card and make any necessary hardware or software setting changes, for example to the jumpers.

1.2 Remove the bracket plate on the slot you intend to use. Keep the bracket for possible future use.

1.3 Carefully align the card's connectors and press firmly.

1.4 Secure the card on the slot with the screw you just removed above.

1.5 Jump to step 6 to finish the installation, then set the IRQ and DMA as follows.

2. Assigning IRQs for PCI Expansion Cards

An IRQ number is automatically assigned to PCI expansion cards. In the PCI bus design, the BIOS automatically assigns an IRQ to a PCI slot that contains a card requiring an IRQ. To install a PCI card, you need to set the INT (interrupt) assignment. Since all the PCI slots on this motherboard use an INTA #, set the jumpers on your

PCI cards to INTA.

Step 6.

Powering on Your Computer

1. Be sure that all switches are off (in some systems, this is marked with an "O").

2. After finishing all jumper settings and connections, close the system case cover.

3. Connect the power supply cord into the power supply located on the back of your system case.

4. Connect the power cord into a power outlet that is equipped with a surge protector.

5. You may then turn on your devices in the following order:
   - Your monitor
   - Your system power.

   For ATX power supplies, you need to switch on the power supply as well as press the ATX power switch on the front of the case.

6. The power LED on the front panel of the system case will light up. For ATX power supplies, the system LED will light up when the ATX power switch is pressed. The monitor LED may light up after the system's LED if it complies with "green" standards or if it has a power standby feature. The system will then run power-on tests. While the tests are running, additional messages will appear on the screen. **If you do not see anything within 30 seconds from the time you turn on the power, the system may have failed a power-on test.** Recheck your jumper settings and connections or call your retailer for assistance.

7. During power-on hold down <F2> to enter the BIOS setup. Follow the instructions in the next chapter, BIOS Setup.

Note

- **Powering Off your computer**

You have to first exit or shut down your operating system before switching off the power switch. For ATX power supplies, you can press the ATX power switch after exiting or shutting down your operating system.

Chapter 2

BIOS Setup

This chapter discusses the PhoenixBIOS Setup program built into the ROM BIOS. The Setup program allows users to modify the basic system configurations according to their requirements. This special information is then stored in a battery-backed RAM so that it retains the Setup information when the power is turned off.

The PhoenixBIOS installed in your computer system's ROM (Read Only Memory) is a custom version of an industry standard BIOS. The BIOS provides critical low-level support for standard devices such as disk drives and serial and parallel ports.

The PhoenixBIOS has been customized by adding important, but non-standard, features such as password protection as well as special support for detailed fine-tuning of the chipset controlling the entire system.
The rest of this chapter is intended to guide you through the process of configuring your system using Setup.

Starting BIOS Setup

The PhoenixBIOS is immediately activated when you power on the computer every time. The BIOS reads the system information contained in the CMOS and begins the process of checking out the system and configuring it. After finishing configuring the whole system, BIOS will continue to seek an operating system on one of the disks, launch it, and then turn control over to the operating system.
While the BIOS is in control, the Setup program can be activated in one of two ways:

1. By pressing the <F2> key when the following message appears briefly at the bottom of the screen during the POST (Power On Self-Test).

Press F2 to enter SETUP.

If the message disappears before you respond and you still wish to enter the Setup Program, restart the system from the “On” state to the “Off” state by pressing the "RESET" button on the system case. You may also restart the system by simultaneously pressing the <Ctrl>, <Alt>, and <Delete> keys. If you do not press the keys at the correct time and the system does not boot up, an error message will be displayed and you will again be asked to...

PRESS F1 TO CONTINUE, F2 TO ENTER SETUP

Using Setup

In general, you use the arrow keys to highlight items, by pressing <Enter> to select, and pressing <Esc> to quit. The following table provides more details about how to navigate in the Setup program using the keyboard.

Key	Function
Up Arrow (↑) Key	Move to the previous item
Down Arrow (↓) Key	Move to the next item
Left Arrow (←) Key	Move to the previous item
Right Arrow (→) Key	Move to the next item
Esc key	In the Sub-menu: Exit the sub-menu. In the BIOS main category: Quit Without saving changes.
Enter Key	Select the item. A selection will pop up on the screen and that allows you to set the value of the items.
PgUp Key	Increase the numeric value or make changes
PgDn Key	Decrease the numeric value or make changes
+ Key	Increase the numeric value or make changes
- Key	Decrease the numeric value or make changes
F1 Key	General Help on Setup navigation keys. Pressing the <F1> key allows a small help window to pop up that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window, press <ESC> or <F1> again.
F9 Key	Setup Defaults
F10 key	Save the configuration and exit the BIOS Setup Utility

Table 1 Legend Keys

Navigating through the menu bar
Use the left and right arrow keys to navigate through the menu you want to be in.

Displaying a sub menu
Use the arrow keys to move the cursor to the sub menu you want. Then press <Enter>. A "➢" pointer marks all sub menus.

In Case of Problems

If after making and saving system changes with Setup, you discover that your computer no longer is able to boot, the *Phoenix*BIOS supports an override to the CMOS settings, which resets your system to its defaults. The other way is to clear the present CMOS information. (Refer to the jumper settings.)
The best advice is to only alter settings that you thoroughly understand.

 WARNING

We strongly recommend that you avoid making any changes to the chipset defaults. These defaults have been carefully chosen by both *Phoenix*BIOS to provide maximum performance and reliability for the system. Even a slight change to the chipset settings may cause potential and unpredictable failure to the system.

◆ **The Menu Bar**

The Menu Bar at the top of the window lists these selections:

Key	Function
<Main>	General system settings, includes Date/Time, IDE and Processor.
<Advanced>	Advanced settings for power user.
<Security>	Administrator tool for highly low-level system protection.
<Server>	Server management tools, allows BIOS and ACPI redirection.
<Boot>	Allows user select the boot device sequence.
<Exit>	Save BIOS setting and reboot the system

Use the left and right arrow keys to make a selection.
See the section below, "Exiting Setup," for a description on exiting the Main Menu.

◆ **The Legend Bar**

Use the keys listed in the legend bar on the bottom to make your selections or exit the current menu. The chart on the following page describes the legend keys and their alternates:

Key	Function
<F1> or <Alt-H>	General Help window (See below).
<Esc>	Exit this menu.
arrow keys	Select a different menu.
- or ¯ arrow keys	Move cursor up and down.
<Tab> or <Shift-Tab>	Cycle cursor up and down.
<Home> or <End>	Move cursor to top or bottom of window.
<PgUp> or <PgDn>	Move cursor to the next or previous page.
<F5> or <->	Select the Previous Value for the field.
<F6> or <+> or <Space>	Select the Next Value for the field.
<F9>	Load the Default Configuration values for this menu.
<F10>	Save and exit.
<Enter>	Execute Command or Select *P* Submenu.
<Alt-R>	Refresh the screen.

To select an item, use the arrow keys to move the cursor to the field you want. Then use the plus-and-minus value keys to select a value for that field. The Save Values commands in the Exit Menu save the values currently displayed in all the menus.

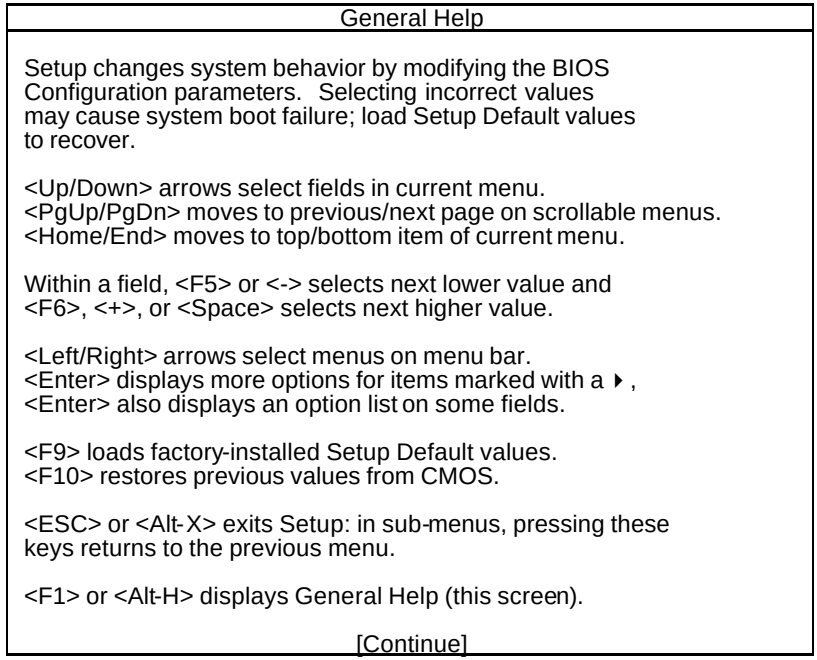
To display a sub menu, use the arrow keys to move the cursor to the sub menu you want. Then press **<Enter>**. A pointer (▸) marks all sub menus.

The Field Help Window

The help window on the right side of each menu displays the help text for the currently selected field. It updates as you move the cursor to each field.

- **The General Help Window**

Pressing **<F1>** or **<Alt-H>** on any menu brings up the General Help window that describes the legend keys and their alternates:



General Help

Setup changes system behavior by modifying the BIOS Configuration parameters. Selecting incorrect values may cause system boot failure; load Setup Default values to recover.

<Up/Down> arrows select fields in current menu.
<PgUp/PgDn> moves to previous/next page on scrollable menus.
<Home/End> moves to top/bottom item of current menu.

Within a field, <F5> or <-> selects next lower value and <F6>, <+>, or <Space> selects next higher value.

<Left/Right> arrows select menus on menu bar.
<Enter> displays more options for items marked with a ▸,
<Enter> also displays an option list on some fields.

<F9> loads factory-installed Setup Default values.
<F10> restores previous values from CMOS.

<ESC> or <Alt-X> exits Setup: in sub-menus, pressing these keys returns to the previous menu.

<F1> or <Alt-H> displays General Help (this screen).

[Continue]

The scroll bar on the right of any window indicates that there is more than one page of information in the window. Use **<PgUp>** and **<PgDn>** to display all the pages. Pressing **<Home>** and **<End>** displays the first and last page. Pressing **<Enter>** displays each page and then exits the window.

Press **<Esc>** to exit the current window.

Section 1

Main Menu

To start the ***Phoenix*BIOS** Setup utility:

Step 1: Turn on or reboot your system. The PhoenixBIOS displays this message:

Press <F2> to enter SETUP

Step 2: Pressing <F2> displays the Main Menu, which looks like this:

PhoenixBIOS Setup Utility

Main	Advanced	Security	Server	Boot	Exit

		Item Specific Help
System Time	[16:19:20]	<Tab>, <Shift-Tab>, or <Enter> selects field.
System Date:	[03/02/1994]	
Legacy Diskette A:	[1.44/1.25 MB 3½"]	
▸ Hard Disk Pre-Delay	[Disabled]	
▸ Primary Master	6449 MB	
▸ Primary Slave	None	
▸ Secondary Master	CD-ROM	
▸ Secondary Slave	None	
▸ Tertiary Master	None	
▸ Tertiary Slave	None	
▸ Processor Settings		
Language	[English (US)]	
BIOS Version:	Rel.6.0.00XX	

F1	Help	↑↓ Select Item	-/+ Change Values	F9	Setup Defaults
ESC	Exit	? Select Menu	Enter Select ▸ Sub-Menu	F10	Save and Exit

Step 3: A description of the fields on this menu.

◆ Main Menu Selections

You can make the following selections on the Main Menu itself. Use the sub menus for other selections.

Feature	Options	Description
System Time	HH:MM:SS	Set the system time.
System Date	MM/DD/YYYY	Set the system date.
Diskette 1	Disabled 1.2 MB, 5 ¼" 720 kB, 3 ½" 1.44/1.25 MB, 3 ½"	Select the type of floppy-disk drive installed in your system. 1.25 MB is a Japanese media format that requires a 3½" 3-Mode Diskette drive.
Hard Disk Pre-Delay	Enabled Disabled	Add a delay before the first access of a hard disk by the BIOS. Some hard disks hang if accessed before they have initialized themselves. This delay ensures the hard disk has initialized after power up prior to being accessed.

▪ Master, Slave and Tertiary Sub-Menus

The **Master**, **Slave** and Tertiary sub-menus accessed from the Main Menu control these types of devices:

- Hard-disk drives
- Removable-disk drives such as Zip drives
- CD-ROM drives

KIS-PDRCA supports up to three **IDE disk adapters**, called **primary**, **secondary** and **tertiary** adapters. Each adapter supports one **master drive** and one optional **slave drive** in these possible combinations:

- 1 Master
- 1 Master, 1 Slave
- 2 Masters
- 2 Masters, 1 Slave
- 2 Masters, 2 Slaves
- 3 Masters

- 3 Masters, 2 Slaves
- 3 Masters, 3 Slaves

There is one IDE connector for each adapter on your machine, usually labeled "Primary IDE", "Secondary IDE" and “Tertiary IDE”. There are usually two connectors on each ribbon cable attached to each IDE connector. When you have connected two drives to these connectors, the one on the end of the cable is the Master.

If you need to change your drive settings, selecting one of the Master or Slave drives on the Main Menu displays a sub-menu like this:

PhoenixBIOS Setup Utility					
Main	Advanced	Security	Server	Boot	Exit
Primary Master				Item Specific Help	
Type:		[**Auto**]		Select the drive type of the fixed disk installed in your system. If type User is selected, Cylinders, Heads, and Sectors can be edited directly. Auto attempts to automatically detect the drive type for drives that comply with ANSI specifications.	
Multi Sector Transfer :		[Disable]			
LBA Mode Control:		[Disable]			
Transfer Mode:		[Auto]			
Ultra DMA Mode:		[Disable]			
F1 Help	↑↓ Select Item	-/+	Change Values	F9	Setup Defaults
ESC Exit	? Select Menu	Enter	Select ▸ Sub-Menu	F10	Save and Exit

Use the legend keys listed on the bottom to make your selections and exit to the Main Menu. Use the following chart to configure the hard disk.

Feature	Options	Description
Type	None User Auto IDE Removable CD-ROM ATAPI Removable	None = Autotyping is not able to supply the drive type or end user has selected None, disabling any drive that may be installed. User = You supply the hard-disk drive information in the following fields. Auto = Autotyping, the drive itself supplies the correct drive information. IDE Removable = Removable read-and-write media (e.g., IDE Zip drive). CD-ROM = Readable CD-ROM drive. ATAPI Removable = Read-and-write media (e.g., LS120, USB Floppy, USB Zip).
Multi-Sector Transfers	Disabled 2 sectors 4 sectors 8 sectors 16 sectors	Any selection except Disabled determines the number of sectors transferred per block. Standard is 1 sector per block.
LBA Mode Control	Enabled Disabled	Enabling LBA causes Logical Block Addressing to be used in place of Cylinders, Heads, & Sectors.
Transfer Mode	Standard Fast PIO 1 Fast PIO 2 Fast PIO 3 Fast PIO 4 FPIO3/DMA1 FPIO4/DMA2	Selects the method for transferring the data between the hard disk and system memory. The Setup menu only lists those options supported by the drive and platform.
Ultra DMA Mode	Enabled Disabled	User can change the mode from Disabled to Enabled to heighten the data performance.

* IDE drives do not require setting Landing Zone and Write Precomp.

When you enter Setup, the Main Menu usually displays the results of **Autotyping–**information that each drive provides regarding its own parameters (e.g., cylinders, heads, and sectors)–and how the drives are arranged as Masters or Slaves on your machine.

Some older drives, however, do not use Autotyping and require selecting User type and entering a pre-defined fixed-disk type value or specifying the drive parameters separately with the User type selected. You can find the correct parameters for hard disk drives in the drive manual or written on the casing of the drive itself.

 Note

Before you change any of the contents in this menu, write them down. Once you have been able to establish all the correct parameters for your drive, be sure to write them down and have them stored in a safe place (e.g., taping them to the disk drive is an option) so that you can use them in case the values are lost in CMOS or if autotyping fails. If these hard disk parameters are not correctly entered in CMOS, you will not be able to access the data on your drive.

 **WARNING**

Incorrect settings can cause your system to malfunction. To correct mistakes, return to Setup and restore the Setup Defaults with <F9> and re-enter the correct drive parameters.

Section 2

Advanced Menu

Selecting "Advanced" from menu bar on the Main Menu displays a menu like this:

PhoenixBIOS Setup Utility

Main	**Advanced**	Security	Server	Boot	Exit

		Item Specific Help
▸ Memory Configuration		Memory Reconfiguration Menu
▸ PCI Configuration		
▸ I/O Device Configuration		
▸ Advanced Chipset Control		
Boot-time Diagnostic Screen:	[Disabled]	
Reset Configuration Data:	[No]	
NumLock:	[Off]	

F1 Help	↑↓ Select Item	-/+	Change Values	F9	Setup Defaults
ESC Exit	? Select Menu	Enter	Select ▸ Sub-Menu	F10	Save and Exit

WARNING

Incorrect settings can cause your system to malfunction. To correct mistakes, return to Setup and restore the Setup Defaults with <F9>.

◆ **Memory Configuration**

System users can select "Memory Configuration" in the menu bar on the Advanced menu display:

PhoenixBIOS Setup Utility					
Main	**Advanced**	Security	Server	Boot	Exit
Memory Configuration				Item Specific Help	
System Memory:	640 KB			Clear the memory error status.	
Extended Memory:	261120 KB				
Shadow RAM:	384 KB				
Cache RAM:	512 KB				
DIMM Group #1 Status	Normal				
DIMM Group #2 Status	Not Installed				
DIMM Group #3 Status	Not Installed				
DIMM Group #4 Status	Not Installed				
Memory Retest	[Yes]				
F1 Help	↑↓ Select Item	-/+	Change Values	F9	Setup Defaults
ESC Exit	? Select Menu	Enter	Select ▸ Sub-Menu	F10	Save and Exit

Note

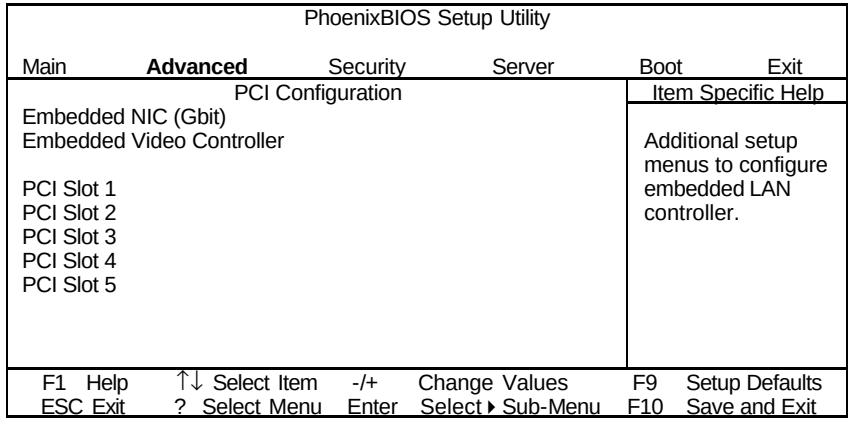
The contents of this menu depend on the chipset installed on your motherboard, and chipsets vary widely. Consult your dealer or the chipset manual before changing the items on this menu. Incorrect settings can cause your system to malfunction.

The memory retest function is for automatically detecting for installed DIMMs or whether or not a malfunction has occurred.

◆

◆ PCI Configuration

Users may select "PCI Configuration" in the menu bar of the Advanced menu display:



Entering the “Embedded NIC (Gbit)” menu allows you to enable or disable the on-board LAN controller and optional ROM scan functions. Entering the “Embedded Video Controller” menu allows you to enable or disable the VGA controller.

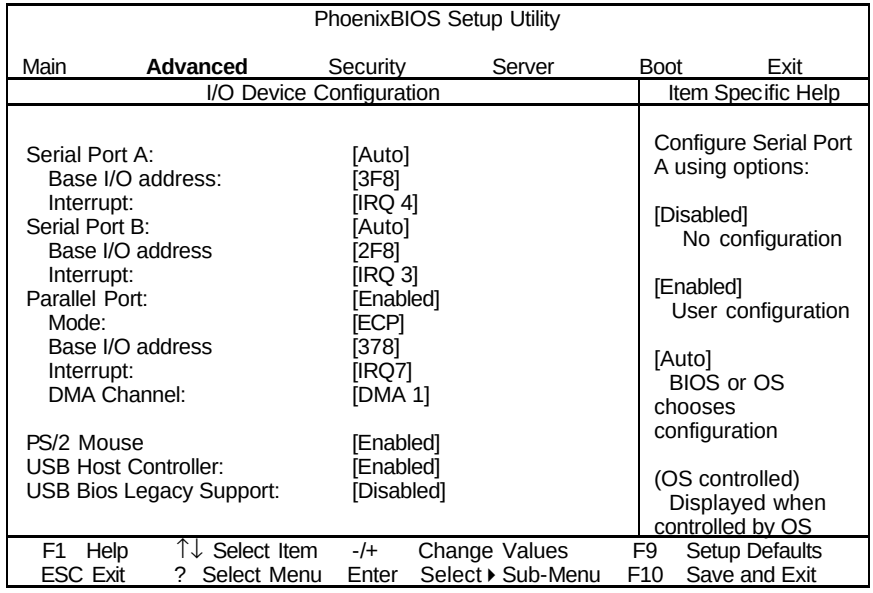
♦ I/O Device Configuration

The CPU communicates with external devices such as printers through devices called **Input/Output (I/O) ports**. Serial and parallel ports are examples of such ports. These I/O devices require the use of system resources such as I/O addresses and interrupt lines. **f** these devices are Plug and Play, either the BIOS can allocate the devices during POST, or the operating system can do it. If the I/O devices are not Plug and Play, they may require having to manually input them in Setup.

On some systems, the **chipset** manages the communication devices. Other systems have, instead, a separate **I/O chip** on the motherboard

for configuring and managing these devices.

Many systems allow you to control the configuration settings for the I/O ports. Select "I/O Device Configuration" on the Advanced Menu to display this menu and specify how you want to configure these I/O Devices:



Use the legend keys to make your selections and exit to the Main Menu.

Feature	Options	Description
Serial port A: Serial port B:	Disabled Enabled	Disabled turns off the ports. Enabled requires you to input the base Input/Output address and the Interrupt number on the next line. Auto makes the BIOS configure the port automatically during POST. OS Control lets the PnP Operating System (such as Windows 95) configure the port after POST.
Base I/O	3F8, 2F8 3E8, 2E8	If you select Enabled, choose one of these combinations.
Interrupt	IRQ3, IRQ4	
Parallel Port:	Disabled Enabled	Disabled turns off the port. Enabled requires you to enter the base Input/Output address and the Interrupt number below. Auto makes the BIOS auto configure the port during POST. OS Controlled lets the PnP Operating System (such as Windows 95) configure the port after POST.
Mode	Output only Bi-directional EPP ECP	Output only is a standard one-way protocol for a parallel device. Bi-directional uses a two-way protocol of an Extended Capabilities Port (ECP).
Base I/O	378, 278 3BC	If you select Enabled, choose one of these combinations.
Interrupt	IRQ5, IRQ7	
DMA Channel	DMA1, DMA3	

Use this menu to specify how the I/O (Input and Output) ports are

configured:

- To be done manually by yourself.
- Automatically by the BIOS during POST (See "ROM BIOS Functions" on page #)
- Automatically by a PnP Operating System such as Windows 95 after the Operating System boots.

Warning

If you choose the same I/O address or Interrupt for more than one port, the menu displays an asterisk (*) at the conflicting settings. It also displays this message at the bottom of the menu:

*Indicates a DMA, Interrupt, I/O, or memory resource conflict with another device. Resolve the conflict by selecting another setting for the devices.

- **Advanced Chipset Control**

Users can select "Advanced Chipset Control" from the Advanced menu.

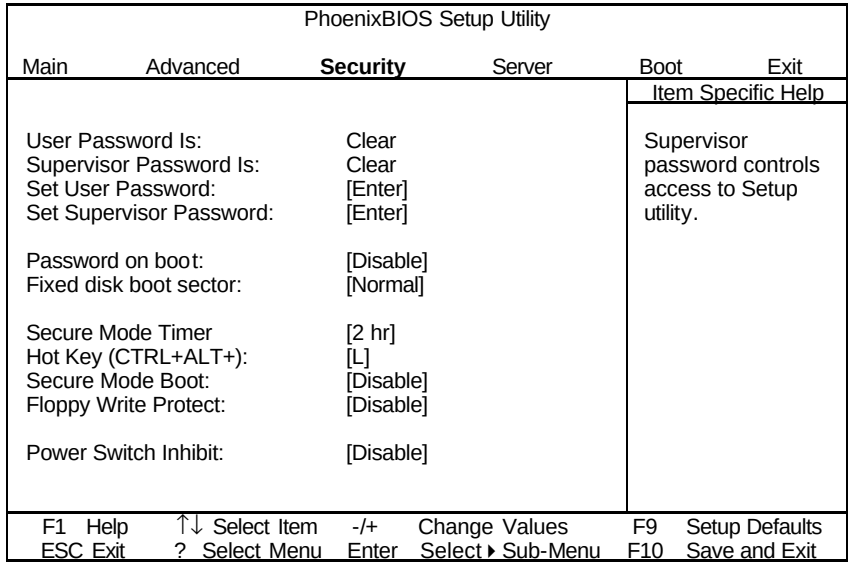
PhoenixBIOS Setup Utility					
Main	**Advanced**	Security	Server	Boot	Exit
Advanced Chipset Control				Item Specific Help	
Wake On LAN/PME:	[Disabled]			Enables Wake On LAN/PME support.	
Wake On Ring:	[Disabled]				
Wake On RTC:	[Disabled]				
F1 Help	↑↓ Select Item	-/+	Change Values	F9	Setup Defaults
ESC Exit	? Select Menu	Enter	Select ▸ Sub-Menu	F10	Save and Exit

Select the options from this menu to enable Wake On LAN/PME, Wake on ring, and wake on real time clock (RTC) support. The DQS strobe delays indicates the number of delays written to each data path.

Section 3

Security Menu

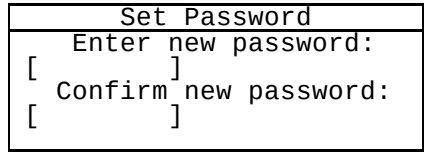
Selecting "Security" from the Main Menu displays a menu like this:



Use the legend keys to make your selections and exit to the Main Menu.

Enabling "Supervisor Password" requires a password for entering Setup. The passwords are not case sensitive.

Pressing <Enter> at either Set Supervisor Password or Set User Password displays a dialog box like this:



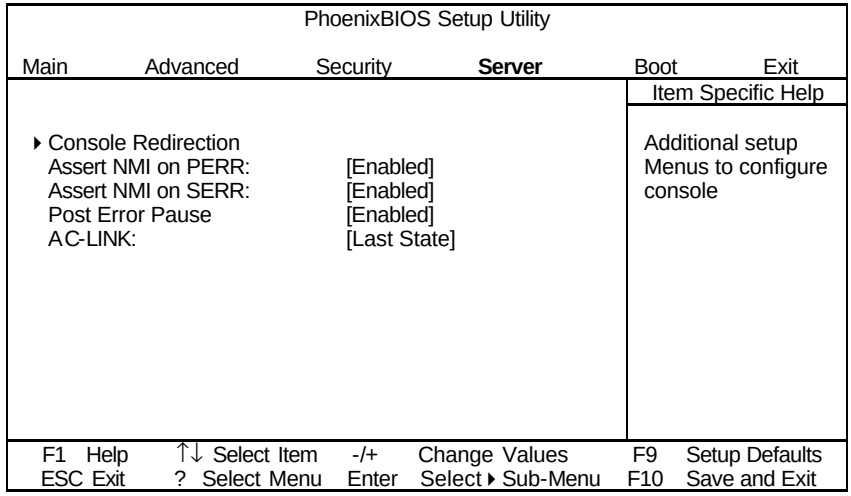
Type the password and press <Enter>. Repeat.

Feature	Options	Description
Set User Password	Up to seven alphanumeric characters	Pressing <Enter> displays the dialog box for entering the user password. In related systems, this password gives restricted access to SETUP menus.
Set Supervisor Password	Up to seven alphanumeric characters	Pressing <Enter> displays the dialog box for entering the supervisor password. In related systems, this password gives full access to Setup menus.
Password on boot	Enabled Disabled	Enabled requires a password on boot, which requires prior setting of the supervisor's password. If the supervisor's password is set and this option disabled, BIOS assumes the user is booting.
Fixed disk boot sector	Normal Write Protect	Write protects the boot sector on the hard disk for virus protection. This requires a password to format or Fdisk the hard disk.
Secure Mode Timer	Times	Period of keyboard and mouse inactivity
Secure Mode Boot	Enabled Disabled	Password is required when booting system
Floppy Write Protect	Enabled Disabled	Password is required for write to floppy
Power Switch Inhibit	Enabled Disabled	Allows used to disable the front panel power button

Section 4

Server Menu

Selecting "Server" from the menu bar displays a menu like this:



Feature	Options	Description
Assert NMI on PERR	Enabled Disabled	If "Enabled" ,PCI bus Parity error (PERR) is Enabled and is routed to NMI.
Assert NMI on SERR	Enabled Disabled	If "Enabled" ,PCI bus system error (SERR) is Enabled and is routed to NMI.
Post Error Pause	Enabled Disabled	If enabled, the system will Wait for user in-tervention On critical POST errors. If disabled, the system will Boot with no intervention, If possible.
AC-LINK	Stay off Last State Power On	Selects system power States after AC power loss.

PhoenixBIOS Setup Utility

Main Advanced Security **Server** Boot Exit

Console Redirection		Item Specific Help
BIOS Redirection Ports	[Disabled]	If enabled, it will Use a port on the Motherboard.
ACPI Redirection Ports	[Disabled]	
Baud Rate	[19.2K]	
Flow Control	[CTS/RTS]	
Console Type	[PC ANSI]	

F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults
ESC Exit ? Select Menu Enter Select ▸ Sub-Menu F10 Save and Exit

Feature	Options	Description
Bios Redirection port	Enabled Disabled	If enabled, it will Use a port on the Motherboard.
ACPI Redirection port	Enabled Disabled	Selects the serial port to use for ACPI Headless Console Redirection. “Disabled” completely disables ACPI Headless Console Redirection.
Baud Rate	9600 2K 57.6K 115.2K	Enables the specified baud rate.
Flow Control	None XON/XOFF CTS/RTS	Enables Flow Control
Console Type	PC ANSI VT100+ VT-UTF8	Enables the specified console type.

Section 5

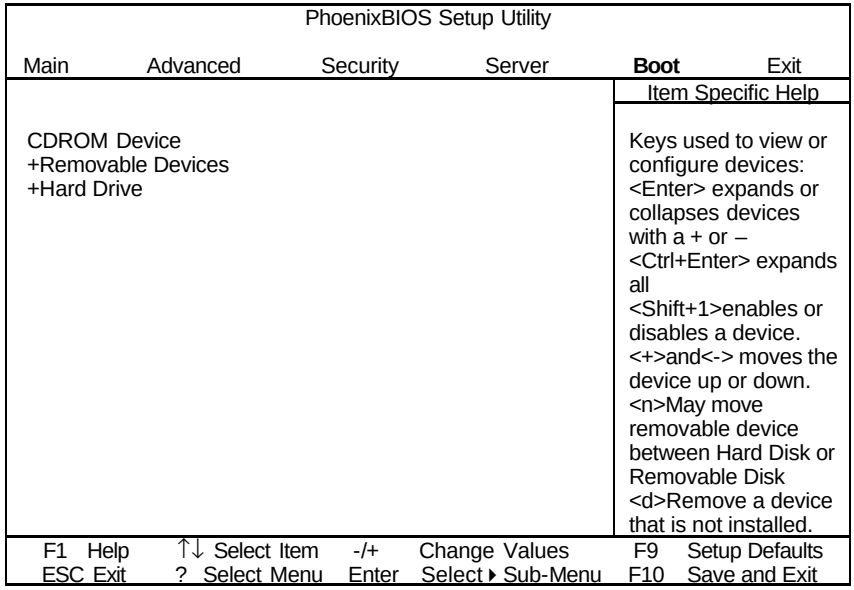
Boot Menu

After you turn on your computer, it will attempt to load the operating system (for example, Windows XP) from the device of your choice. If it cannot find the operating system on that device, it will attempt to load it from one or more other devices in the order specified in the Boot Menu. Boot devices (i.e., with access to an operating system) can include: hard drives, floppy drives, CD ROMs, removable devices (e.g., Iomega Zip drives), and network cards.

 ***Note***

Specifying any device as a boot device on the Boot Menu requires the availability of an operating system on that device. Most PCs come with an operating system already installed on hard drive C:\.

Selecting "Boot" from the Menu Bar displays the Boot menu, which looks like this:



Use this menu in order to specify the priority of the devices from which the BIOS will attempt to boot the Operating System. In the example above, the BIOS will first attempt to boot the OS from the CD-ROM drive (the only Removable Device listed). Failing that, it will attempt to boot from the Primary Master hard disk, and so on down the list.
Removable Devices, **Hard Drive**, and **Network Boot** are the generic types of devices on your system from which you can boot an operating system. It is possible to set up more than one device of each type. The generic type is marked with a plus or minus sign. Use the <Enter> key to expand or collapse the devices marked with <+> or <->. Press <Ctrl+Enter> to expand all such devices.

Note

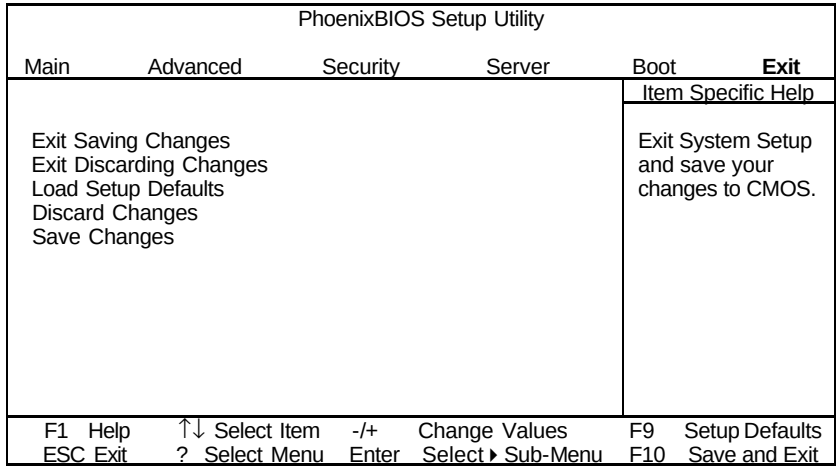
Floppy drives are not managed on this menu as part of Removable Devices.

To change a device' s priority on the list, first select it with the up-or-down arrows and move it up or down using the <+> or <-> keys. Pressing <n> moves a device between the Removable Devices and Hard Drive. Pre7ssing <Shift+1> enables or disables a device.

Section 6

Exit Menu

Selecting "Exit" from the menu bar displays this menu:



The following sections describe each of the options on this menu. Note that <Esc> does not exit this menu. You must select one of the items from the menu or menu bar to exit.

◆ **Saving Values**

After making your selections on the Setup menus, always select either "Saving Values" or "Save Changes." Both procedures store the selections displayed in the menus in **CMOS** (short for "battery-backed CMOS RAM"), which is a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS.

After you save your selections, the program displays this message:

```
Values have been saved to CMOS!
Press <space> to continue
```

If you attempt to exit without saving, the program asks if you want to you' re your selections before exiting.
During boot up, *Phoenix*BIOS attempts to load the values saved in CMOS. If those values cause the system boot to fail, reboot and press **<F2>** to enter Setup. In Setup, you can get the Default Values (as described below) or try to change the selections that caused the boot to fail.

◆ **Exit Discarding Changes**
Use this option to exit Setup without storing in CMOS any new selections you may have made. The selections previously in effect remain in effect.

◆ **Load Setup Defaults**
To display the default values for all the Setup menus, select "Load Setup Defaults" from the Main Menu. The program displays this message:

ROM Default values have been loaded!
Press <space> to continue
If, during the boot up, the BIOS program detects a problem in the integrity of the values stored in CMOS, it displays these messages:

System CMOS checksum bad - run SETUP

Press <F1> to resume, <F2> to Setup
The CMOS values have been corrupted or modified incorrectly, perhaps by an application program that changes data stored in CMOS.
Press **<F1>** to resume the boot or **<F2>** to run Setup with the ROM default values already loaded into the menus. You can make other changes before saving the values to CMOS.

◆ **Discard Changes**
If, during a Setup Session, you change your mind about changes you have made and have not yet saved the values to CMOS, you can still restore the

that values you previously saved to CMOS.
Selecting "Discard Changes" on the Exit menu updates all the selections and displays this message:

CMOS values have been loaded!
Press <space> to continue

◆ **Save Changes**

Selecting "Save Changes" saves all the selections without exiting Setup. You can return to the other menus if you want to review and change your selections.

Chapter 3.1

BIOS Boot Utility

Phoenix Boot Utilities are:

- Phoenix QuietBoot™
- Phoenix MultiBoot™

Phoenix QuietBoot displays a graphic illustration rather than the traditional POST messages while keeping you informed of diagnostic problems.
Phoenix MultiBoot is a boot screen that displays a selection of boot devices from which you can boot your operating system.

Phoenix QuietBoot

Right after you turn on or reset the computer, **Phoenix QuietBoot** displays the QuietBoot Screen, a graphic illustration created by the computer manufacturer instead of the text-based POST screen, which displays a number of PC diagnostic messages.
To exit the QuietBoot screen and run Setup, to display the MultiBoot menu, or to simply display the PC diagnostic messages, you can simply press one of the hot keys described below.
The QuietBoot Screen stays up until just before the operating system loads unless:

1. Press <Esc> to display the POST screen.
2. Press <F2> to enter Setup.
3. POST issues an error message.
4. The BIOS or an option ROM requests keyboard input.

The following explains each of these situations.

◆ **Press <ESC>**

Pressing <Esc> switches to the POST screen and takes one of two actions:

1. If MultiBoot is installed, the boot process continues with the POST screen until the end of POST, and then displays the **Boot First Menu**, text-based with these options:

   A: Load the operating system from a boot device of your choice.

   B: Enter Setup.

   C: Exit the Boot First Menu (with <Esc>) and load the operating system from the boot devices in the order specified in Setup.

2. If MultiBoot is not installed, the boot process continues as usual.

◆ **Press <F2>**

Pressing <F2> at any time during POST switches to the POST screen (if not already displayed) and enters Setup.

◆ **POST Error**

Whenever POST detects a non-fatal error, QuietBoot switches to the POST screen and displays the errors. It then displays this message:

Press <F1> to resume, <F2> to Setup

Press <F1> to continue with the boot. Press <F2> if you want to correct the error in Setup.

◆ **Keyboard Input Request**

If the BIOS or an **Option ROM** (add-on card) requests keyboard input, QuietBoot switches over to the POST screen and the Option ROM displays prompts for entering the information. POST continues from

there with the regular POST screen.

Phoenix MultiBoot

Phoenix MultiBoot expands your boot options by letting you choose your boot device, which could be a hard disk, floppy disk, or CD ROM. You can select your boot device in Setup, or you can choose a different device each time you boot during POST by selecting your boot device in **The Boot First Menu**.

MultiBoot consists of:

- The Setup Boot Menu
- The Boot First Menu

See the Setup Boot menu on p. 46. The following describes the Boot First Menu.

◆ **The Boot First Menu**

Display the Boot First Menu by pressing <Esc> during POST. In response, the BIOS first displays the message, "Entering Boot Menu..." and then displays the Boot Menu at the end of POST. Use the menu to select any of these options:

1. Override the existing boot sequence (for this boot only) by selecting another boot device. If the specified device does not load the operating system, the BIOS reverts to the previous boot sequence.
2. Enter Setup.
3. Press <Esc> to continue with the existing boot sequence.

Boot Menu
Select boot device or Setup. Use the Up and Down arrows to select the Boot First device, then <Enter> or press <Esc> to exit. 1. Hard Drive 2. ATAPI CD-ROM 3. Diskette Drive 4. Removable Devices 5. Network Boot <Setup>

If there is more than one bootable hard drive, the first one in the Setup Boot menu is the one represented here.

Chapter 3 .2

BIOS Flash Upgrade Utility

Phoenix Phlash gives you the ability to update your BIOS from a floppy disk without having to install a new ROM BIOS chip.
Phoenix Phlash is a utility for "flashing" (copying) a BIOS to the Flash ROM installed on your computer from a floppy disk. A Flash ROM is a Read-Only Memory chip that you can write using a special method called "flashing." Use Phoenix Phlash for the following tasks:

Update the current BIOS with a new version.

Restore a BIOS when it has become corrupted.

Installation

Phoenix Phlash is shipped on a floppy disk with your computer as a compressed file called CRISDISK.ZIP that contains the following files:

CRISDISK.BAT	Executable file for creating the Crisis Recovery Diskette.
PHLASH16.EXE	Performs platform-dependent functions.
BIOS.ROM	Actual BIOS image to be programmed into flash ROM.
MINIDOS.SYS	Allows the system to boot in Crisis Recovery Mode.
MAKEBOOT.EXE	Creates the custom boot sector on the Crisis Recovery Diskette.

Executing Phoenix Phlash16.exe program

You can run Phoenix Phlash16.exe program to upgrade your BIOS version.

1. To put the Phlash16.exe program into A:\
2. To put the BIOS into A:\
3. Typing the command" A:\Phlash16 BIOSNAME.rom"
4. Upgrade your BIOS completely.

Create the Crisis Recovery Diskette

If the OEM or dealer from whom you purchased your system has not provided you with one, then you should create a **Crisis Recovery Diskette** before you use the Phlash utility. If you are unable to boot your system and successfully load the Operating System, the BIOS may have been corrupted, in which case you will have to use the Crisis Recovery Diskette to reboot your system. There are several methods that you can use to create the Crisis Recovery Diskette. Below is one recommended procedure.

1. Be sure you have successfully installed the Phlash Utility onto your hard disk.
2. Insert a clean diskette into drive A: or B:
3. From the local directory, enter the following: CRISDISK [drive]:
   where [*drive*] is the letter of the drive into which you inserted the diskette. For help, type **/?** or **/h**. CRISDISK.BAT formats the diskette,
   then copies MINIDOS.SYS, VGABIOS.EXE (if available), PHLASH.EXE,
   PLATFORM.BIN and BIOS.ROM to the diskette, and creates the Required
   custom boot sector.
4. Write protect and label the Crisis Recovery Diskette.

NOTE

You can only supply a volume label after the Crisis Recovery Diskette has been formatted and the necessary files copied because MINIDOS.SYS must occupy the first directory entry for the diskette to boot properly.

Updating the Crisis Recovery Diskette

If the BIOS image (BIOS.ROM) changes due to an update or bug fix, you can easily update the Crisis Recovery Diskette. Simply copy the new BIOS.ROM image onto the Crisis Recovery Diskette. No further action is necessary.

WARNING

For your own protection, be sure your have a Crisis Recovery Diskette ready to use before executing Phlash.

Command Line Mode

Use this mode to update or replace your current BIOS. To execute Phlash in this mode, move to the directory into which you have installed Phoenix Phlash and type the following:

Phlash

Phoenix Phlash will automatically update or replace the current BIOS with the one which your OEM or dealer supplies you.

Phlash may fail if your system is using memory managers, in which case the utility displays the following message:

Cannot flash when memory managers are present.

If you see this message after you execute Phlash, you must disable the memory manager on your system. To do so, follow the instructions in the following sections.

Disabling Memory Managers

To avoid failure when flashing, you must disable the memory managers that load from CONFIG.SYS and AUTOEXEC.BAT. There are two recommended procedures for disabling the memory managers. One consists of pressing the <F5> key (only if you are using DOS 5.0 or above), and the other requires the creation of a boot diskette.

DOS 5.0 (or later version)

For DOS 5.0 and later, follow the two steps below to disable any memory managers on your system. If you are not using at least DOS 5.0, then you must create a boot diskette to bypass any memory managers (See Create a Boot Diskette, below).

1. Boot DOS 5.0 or later version. (In Windows 95, at the boot option screen,
choose Option 8, "Boot to a previous version of DOS.")

2. When DOS displays the "Starting MS-DOS" message, press <F5>.

After you press <F5>, DOS bypasses the CONFIG.SYS and AUTOEXEC.BAT files, and therefore does not load any memory managers.
You can now execute Phlash.

Create a Boot Diskette
To bypass memory managers in DOS versions previous to 5.0, follow this recommended procedure:

1. Insert a diskette into your A: drive.
2. Enter the following from the command line: Format A: /S
3. Reboot your system from the A: drive.

Your system will now boot without loading the memory managers, and you can then execute Phlash.

Crisis Recovery Mode

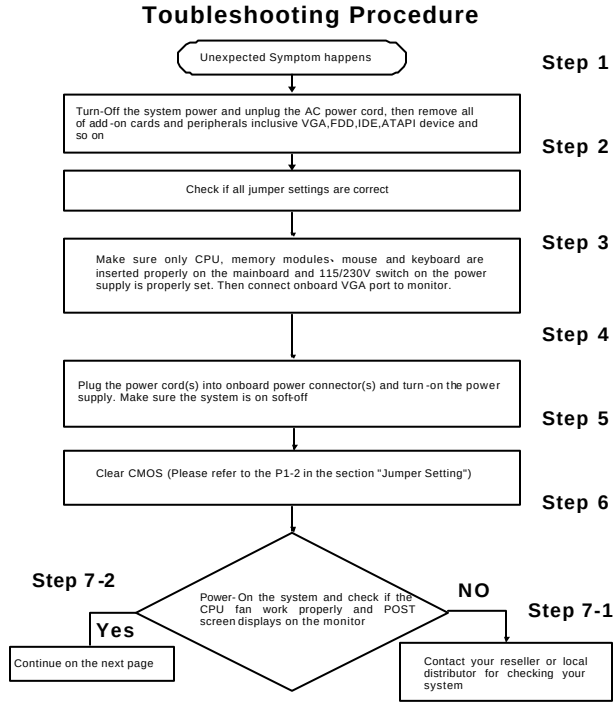
You should only have to operate Phoenix Phlash in this mode only if your system does not boot the operating system when you turn on or reset your computer. In these cases, the BIOS on the Flash ROM has probably been corrupted. Boot your system with the Crisis Recovery Diskette taking these steps:

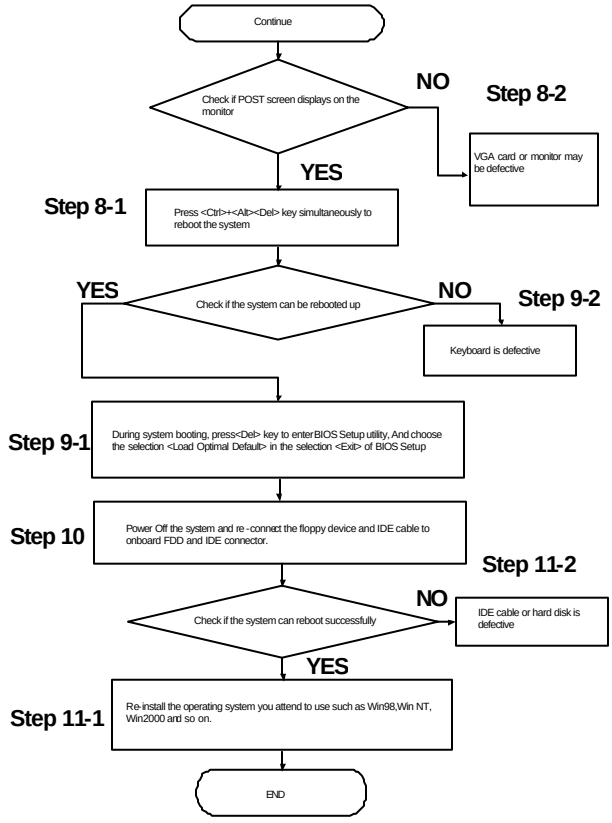
1. Insert the Crisis Recovery diskette (which your dealer supplied or one that you should have created from the instructions above) into drive A:\.
2. Reset your computer, power off-on, or press <Ctrl> <Alt> <Del> to reboot the system.
3. When your system reboots, Phoenix Phlash will restore the BIOS from the diskette and successfully boot the operating system.

Appendix A

Troubleshooting

The following is a checking procedure for common problem encountered during system assembly.





WARNING

Before you insert any add-on card or hardware component in the KIS-PDRCA, always disconnect the power cord first.

3. Symptom checking List

Symptom	Check point
No Power (FAN is not rotating)	1. Make sure no short circuit exist between the motherboard and chassis 2. Check if all jumpers are set to the default position. 3. Check if the 115V/230V switch on the power supply is properly set. 4. Check the CPU is inserted properly into CPU socket. 5. Check the power cord of the CPU fan is plugged into the correct position. 6. Turn the power switch on and off to test the system 7. Check the power of the battery on the M/B. In general, the battery voltage is around 3VDC.
Can power on the system (FAN is rotating), but no screen display.	1. Remove all the add-on card exclusive CPU, and memory modules. 2. Check if the memory is PC2100 DDR Module. Please check your reseller for qualified memory available vendor list (AVL). 3. Check if all jumpers are set to the default position. 4. Clear CMOS by using CLRTC jumper. 5. Check if the connection is connected properly between onboard VGA port and monitor. 6. Use speaker to determine the symptom.
Memory Error	1. Check if the memory DIMM module is inserted into DIMM socket properly. 2. Check if different speed memory modules are mixed and used in the KIS-PDRCA. Verify the BIOS setup is configuration for the fastest speed of RAM used. RIOWORKS recommend always use the same speed RAM in the system.

	3. Make sure your memory module(s) is compliant with PC2100 Spec in the KIS-PDRCA.

Appendix B

Symptom Report Form

M/B	**KIS-PDRCA**	**Serial Number**		**BIOS version**		
CPU 1						
CPU 2						
DIMM 0						
	Size	MB	Brand		Component Model	
DIMM 1						
	Size	MB	Brand		Component Model	
DIMM 2						
	Size	MB	Brand		Component Model	
DIMM 3						
	Size	MB	Brand		Component Model	
FDD						
PCI-X 1						
PCI-X 2						
PCI64-1						
PCI32 1						
PCI32 2						
PCI32 3						
Onboard IDE 0	Master					
	Slave					

Onboard IDE 1	Master				
	Slave				
Onboard IDE RAID CH 0					
Onboard IDE RAID CH 1					
Power Supply		Watt	Model Number		
Other Devices					
Operating system					
Symptom Description:					
Name:					
Contact email address:					