

# SDRCB User's Guide



Overview

Hard ware  
Installation

BIOS  
Setup

BIOS Flash  
Utility

Troubleshooting

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# Overview

Thank you for choosing the R1OWORKS™ SDRCB high performance Server motherboard. The SDRCB is a dual Socket-370 motherboard (M/B) based on the ATX form factor. As the latest ServerWorks LE chipset is built in the M/B, SDRCB fully supports Intel® 500MHz-1GMHz+ PIII/Coppermine FC-PGA processor at 100/133 MHz FSB (Front Side Bus) frequency. In memory support, SDRCB provides four sockets for the system memory. Users just simply choose PC100/133, registered with ECC DIMMs as the system memory and the total maximum memory size can be up to 4GB. Flexibility and expandability are always concerned by R1OWORKS™, SDRCB contains three 32bit/33Mhz and three 64bit/66MHz PCI slots for numerous add-on cards and provides Peer PCI transaction support to increase system performance.

Other features such as onboard SCSI interface (**Optional**), onboard Intel® 82559 10/100 Mbps LAN port (**Optional**) and onboard VGA will provide high system capabilities that meet a wide range of demanding Sever applications.

## *Unpacking*

Remove all items from the box and make sure you have these following items:

- One R1OWORKS SDRCB motherboard
- One ATA /33 IDE ribbon cable
- One 68-pin (female) SCSI cable (**Optional**)
- One 50-pin SCSI cable (female) (**Optional**)
- One Floppy ribbon cable
- One bag of spare jumpers
- One SDRCB User's Guide
- One CD containing drivers and utilities
- One Onboard SCSI and LAN User's Guide (**Optional**)
- Driver Disk(s) for onboard SCSI (**Optional**)

If you discover damaged or missing items, please contact your retailer.

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## Features Highlight

**CPU** Support dual Intel® 500MHz~1GHz+ PIII/Coppermine FC-PGA CPUs at 100/133 MHz Front Side Bus (FSB) frequency and designed for Socket-370 technology.

**Chipset** Use the latest ServerWorks LE chipset in the SDRCB M/B. As known, the LE chipset architecture is consisted of two main components: The Champ North Bridge (CNB30LE) and Open South Bridge™ (OSB4). Because the powerful features of its components, it can fully support the newest technologies: 64bit/66MHz PCI bus, 100/133 FSB frequency, USB interface, Peer PCI Transaction and I<sup>2</sup>C Bus support and so on.

**System Memory Support** SDRCB provides four DIMM sockets and supported total system memory size can be from 128MB to 4GB. A user just chooses specific PC133/100, registered with ECC DIMMs and DIMMs support 64Mbit/128Mbit/256Mbit technology that will allow up to 128/256/512Mbyte per two row (Double sided DIMM) as the system memory. Please also refer to the install memory section (Page 1-3) for further detailed information. Also please refer to the RIOWORKS Website for the latest memory AVL.

**Expansion Slots** Contain three 32-bit PCI, three 64-bit PCI expansion slots for 64-bit/32-bit 66MHz/33MHz add-on card. The advantage from 64-bit/66MHz PCI technology is the theoretical bandwidth can be up to 528MB/s. Besides this, SDRCB also supports Peer PCI transaction. A PCI device on the 32bit/33MHz PCI bus can do Memory and I/O cycles to a PCI device on the 64bit/66MHz PCI bus

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**Onboard  
VGA Chip**

Use ATI RAGE™ as the onboard VGA chip to deliver superior 3D acceleration and comprehensive 3D support. The features of VGA chip include a 1.2 million triangle/S Setup engine, single-pass trilinear filtering, six perspective correct texturing modes, video texturing, Gouraud and specular shading and a host of 3D special effects. As it also incorporates all the required logic to interface gluelessly with Digital Flat Panel monitor, it provide the lowest cost DFT ready implementation while maintaining support for existing VGA connector for legacy monitor support.

**Onboard  
SCSI  
(Optional)**

Use SYMBIOS 1010-66 Ultra160 chip as the onboard SCSI controller of SDRCB. As known, SYMBIOS 1010-66 is a high performance, dual-channel, 64bit/66MHz and Ultra160 SCSI controller. It is able to provide theoretical 160MB/s data transfer rate per channel (320MB/s total). It is fully backward compatible with all of the SCSI standards such as Ultra, Ultra Wide, and Ultra2. In order to provide flexibility and expandability, SDRCB provides three common SCSI internal connectors for the SCSI devices: one is “SCSI Ultra3-50 for ultra SCSI devices; two connectors are “ULTRA3 SCSI” for Ultra160 SCSI devices.

**Onboard LAN  
(Optional)**

Use Intel® 82559 Fast Ethernet Multifunction controller as onboard network interface controller. Intel® 82559 fast Ethernet Controller can provide IEEE 802.3/802.3u 10 Base-T and 100 Base-TX compatible network environment. A user can achieve advanced manageability of the Alert on LAN II Specification by using this Intel® 82559 chip.

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<b>Super Multi-I/O</b>	Provides ports and one parallel port with EPP and ECP capabilities. UART2 two high-speed UART compatible serial can also be directed from COM2 to the Infrared Module for wireless connections.
<b>Ultra DMA 33 Bus Master IDE</b>	Comes with an onboard PCI Bus Master IDE controller with one connector that support two DE devices in one channels, supports Ultra DMA 33, PIO Mode 3 and 4 and Bus Master IDE DMA Mode 4, and supports Enhanced IDE devices.
<b>Intelligent Platform Manage Interface</b>	SDRCB provides one IPMI feature connector for the system management add-on card that is able to provide some system important information such as system inventory, hardware health monitoring, and so on in the in-band/out-of-band and cross-platform environment.
<b>Floppy Drive</b>	Supports 3.5" (1.44MB or 2.88MB) floppy drive and Japanese standard "Floppy 3 mode" (3.5" disk drive: 1.44MB, 1.2MB, 720KB) and LS-120 floppy disk drives (3.5" disk drive: 120 MB). BIOS supports IDE CD-ROM boot-up.
<b>Enhanced ACPI</b>	Fully implements the ACPI standard for Windows 98/NT5.0/2000 compatibility, and supports soft off.
<b>System Management</b>	Supports Fan Status Monitoring and Alert, Temperature Monitoring and Alert, Voltage Monitoring and Alert, through the onboard Hardware Monitor, and RLOWORKS™, "SmartWatch™" software.

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**Desktop  
Management  
Interface  
(DMI)**

Supports DMI through BIOS, which allows hardware to communicate within a standard protocol creating a higher level of compatibility.

**PC99  
Compliant**

The SDRCB is fully compliant with the Microsoft PC99 specification at both the hardware and BIOS levels.

**VRM Support**

Support VRM 8.4 specification.

**Dimension**

Extended ATX form factor-12'x13"



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## About This User Guide

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



### IMPORTANT

This icon informs you for particularly important details regarding the setup or maintenance of your system. While we point out the most vital paragraphs in a chapter, you should always read every word carefully. Failing to do so can cause exasperation.



### WARNING

This icon alerted you for potential dangers during setting up your system with SDRCB. These warnings should not be regarded as the whole of your safety regimen. Never forget that computer are electronic devices and are capable of delivering a shock. Prevent damage to yourself and to your board: always ensure that your system is turned off and unplugged the power cords whenever you are working with it ,and that you are equipped



### NOTE

This icon alerted you for notice during setting up your system. It provides you can useful alert during setting up a new system.



### TIP

This icon will show you how to configure your system with SDRCB in an easy and simple ways. This icon always provides some useful description to help you configure your system.

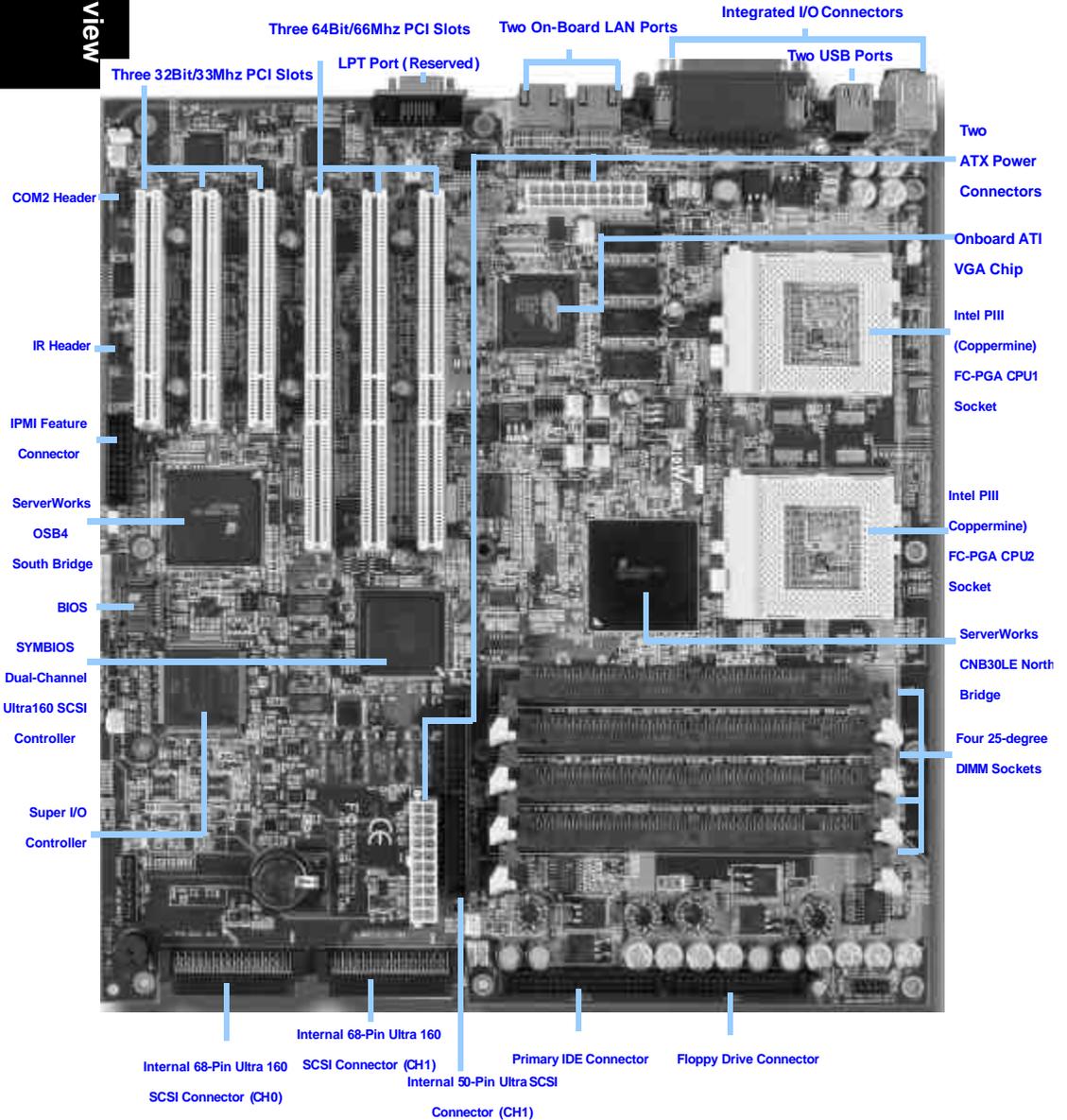
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## ***Getting Help***

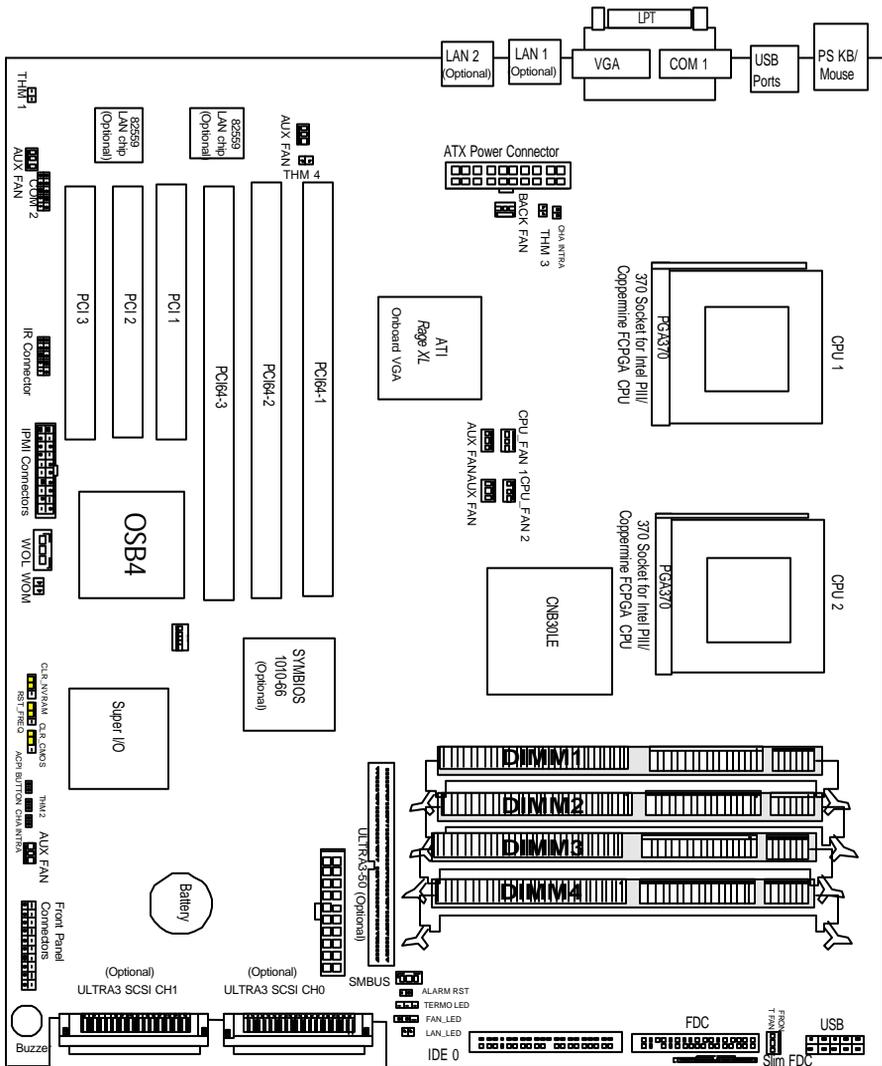
If a problem arises with your system during installation or OS operating, you should ask your dealer for help first as your system has most likely been configured by them. They always have the best idea and quick response for your symptoms. If your dealer is near to your location, you should bring your system to them to have it quickly serviced instead of attempting to solve the problem by yourself. Besides these, RIOWORKS also provides some helpful resources to help you.

1. Select RIOWORKS™'s website at [www.rioworks.com](http://www.rioworks.com) and navigate to this product page which contains links to product updates such as Jumper settings or BIOS updates.
2. FAQ sections on RIOWORKS Website are often helpful since other user's questions are often your own.
3. Email us at: [tsd@rioworks.com](mailto:tsd@rioworks.com) and we will try to answer your questions within 24 hours. Before you email your symptom to [tsd@rioworks.com](mailto:tsd@rioworks.com), please fill in the symptom report form (page A-5) in order to let our engineers solve your problem quickly.

# SDRCB Motherboard (Picture)



# SDRCB Motherboard (Layout)



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## Chapter 1

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# Hardware Installation

In this chapter, the installation of the SDRCB with the processor and other hardware connected to your system will be explained in detail.

### *Installation Procedures*

Installation procedures will be broken up into six major parts.

Step 1: Jumper setting

Step 2: Install memory (SDRAM memory modules)

Step 3: Install CPU

Step 4: Attach cables to connectors

Step 5: Install expansion cards

Step 6: Power connection



### Warning

**This motherboard contains sensitive electronic components that can be easily damaged by static electricity. Follow the instructions carefully to ensure correct installation and to avoid static damage.**

*Step 1.*

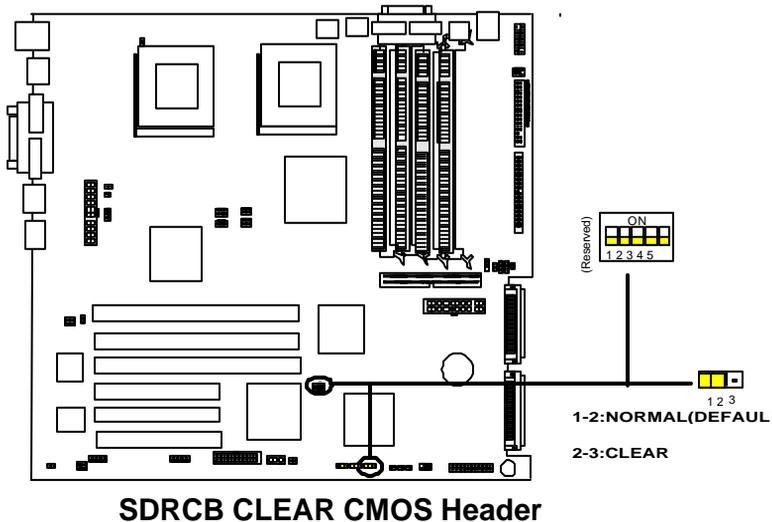
## Jumper Setting

There are three jumpers you can use to change the setting on the motherboard.

Item	Connectors	Page
1	Clear Real Time Clock (RTC) RAM	1-2
2	Reset Frequency	1-3
3	Clear NVRAM (3-pin jumper)	1-4

### 1. Clear Real Time Clock (RTC) RAM

The onboard button cell battery powers the CMOS RAM. It contains all the BIOS setup information. Normally, it is necessary to keep the jumper connected to pin1 and pin2 (Default) to retain the RTC data as shown below.





## Note

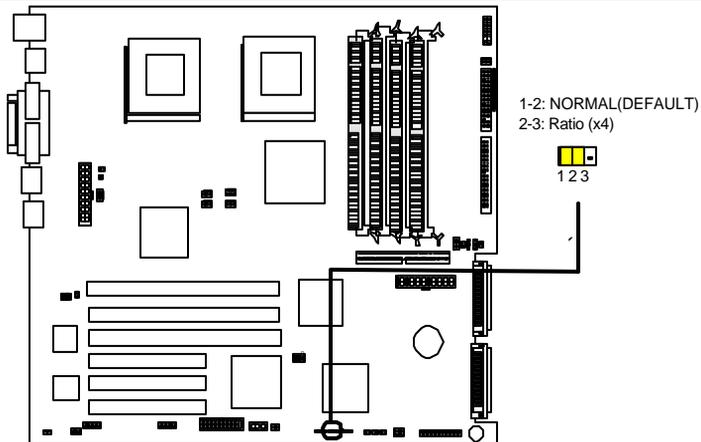
Should you want to clear the RTC data :

- (1) Soft off your computer
- (2) Short pin2 and pin3 with jumper for few seconds
- (3) Connect pin1 and pin2 with jumper
- (4) Turn on your computer by pressing the power-on button from front-panel.
- (5) Hold down <Delete> during bootup and select <Load Optimal Defaults> or <Load Failsafe Defaults > option in the selection “Exit”. Then re-enter BIOS setup to re-enter user preferences.

## 2. Reset Frequency (3-pin jumper)

This jumper allows a user to set if force the CPU ratio to fixed value (x4), especially the system can not boot up because of Overclocking. User just needs to short this jumper (Pin 1 and pin2) to enable this function, then reset the system.

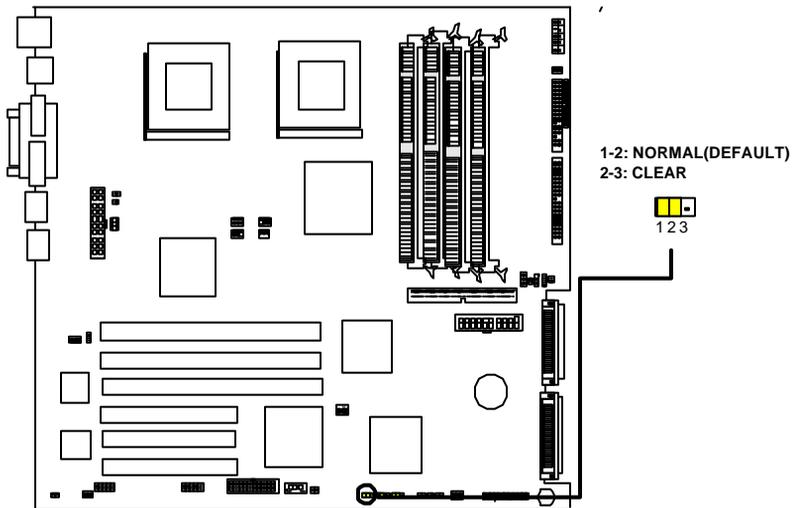
CN54	Description
1-2: NORMAL (DEFAULT)	The internal CPU speed = <u>CPU FSB frequency</u> * <u>ratio of BIOS Setup</u>
2-3: SAFE MODE	The internal CPU speed = <u>CPU FSB frequency</u> * <u>fixed ratio (X4).</u>



**SDRCB Reset\_Frequency Header**

### 3. Clear NVRAM (3-pin jumper)

When system booting up, PCI device information will be stored into the NVRAM. When this jumper is set to "Clear" and booting up the system, system will clear all present data stored in the NVRAM, re-scan all devices in the PCI bus and save all new data into NVRAM.



**SDRCB CLEAR NVRAM Header**

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## Step 2

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### ***Install Memory***

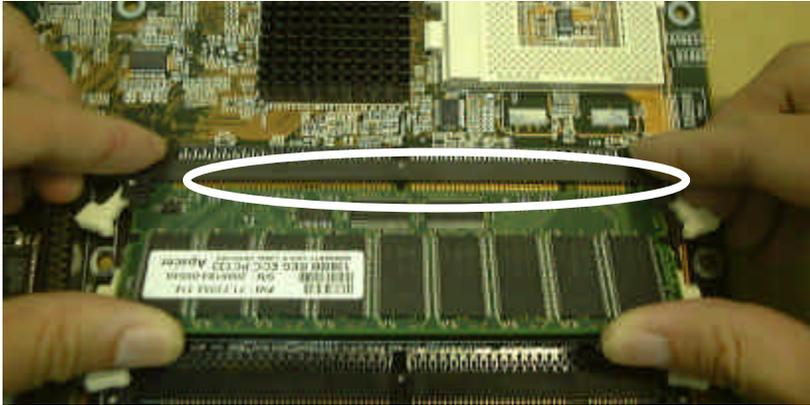
SDRCB uses Dual Inline Memory Modules (DIMM). Four DIMM sockets are available for 3.3Volts (power level), PC100/PC133, Registered and ECC Synchronous Dynamic Random Access Memory (SDRAM) with 128MB, 256MB, 512MB or 1GB combinations. And the total memory size is between 128MB and 4GB.



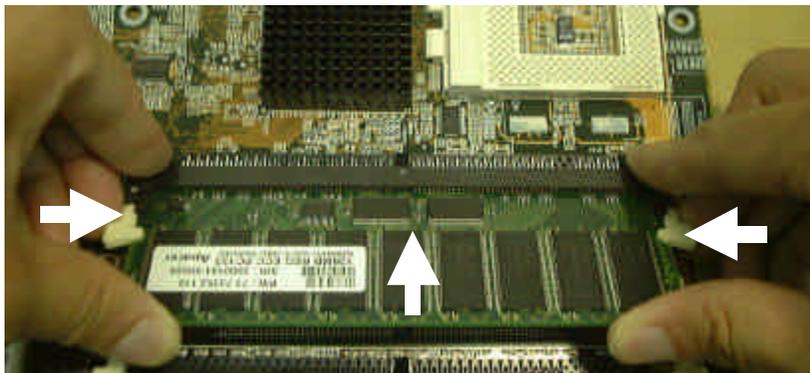
#### **IMPORTANT**

- ❑ As SDRCB has strict memory type and timing requirements. Hence, before you attend to buy the Registered with ECC DIMM and use in the SDRCB, please consult your local reseller for memory suggestion first.
- ❑ Use only Intel® PC133/PC100-compliant Registered with ECC DIMMs and this motherboard operates at 133/100MHz. It will not boot if non-compliant modules are used because of the strict timing issues involved under this speed.
- ❑ To utilize the chipset's Error Checking and Correction (ECC) features, you have to choose the DIMM module with 9 chips (devices) per side (standard 8 chips (devices)/side plus 1 ECC chip) and check if the setting is proper in the selection "DRAM Integrity Mode" in the selection "Advanced Chipset Setup" in the BIOS Utility.
- ❑ SDRCB only support PC133/100, Registered with ECC SDRAM. Unbuffered SDRAM and Non-ECC memory can not be used in the SDRCB.
- ❑ Since the SDRCB memory bus is synchronized to front side bus (FSB) speed, it is not allows a user to use PC100 DIMM with 133MHz FSB CPU in the SDRCB. Otherwise system may not able to bootup. When a user use PC133 DIMM with 100FSB CPU, it will result in 100MHz memory speed operation.





3. Insert the module down to the DIMM socket in with both hands and press down firmly until the DIMM module is securely in place. (The tabs of the socket will close-up to hold the DIMM in place when the DIMM touches the socket's bottom.)



4. Repeat step1 to step 3 to add additional DIMM modules.



## NOTE

In order to make the SDRCB memory installation easier, RIOWORKS recommend a user following the memory socket installation sequence below

<b>Total installed memory module(s)</b>	<b>Installation sequence</b>
One	DIMM0
Two	DIMM1->DIMM0
Three	DIMM2->DIMM1->DIMM0
Four	DIMM3-> DIMM2->DIMM1->DIMM0

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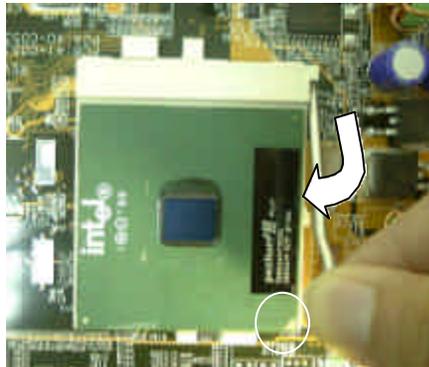
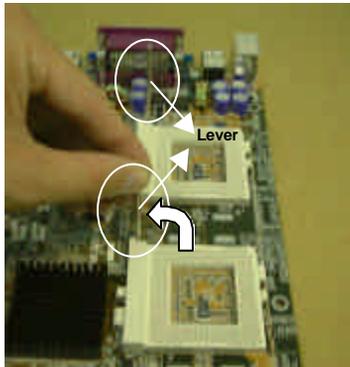
### Step 3

## Install CPU

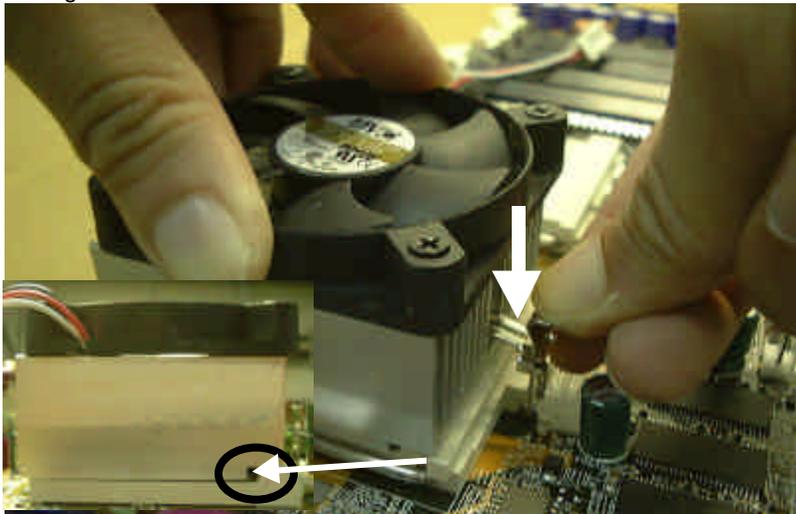
SDRCB provides two CPU sockets for dual Intel® 500~1GHz+ PIII(Coppermine) FC-PGA processors at 100/133MHz FSB.

### CPU Installation Procedures

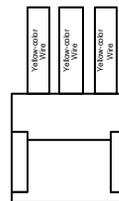
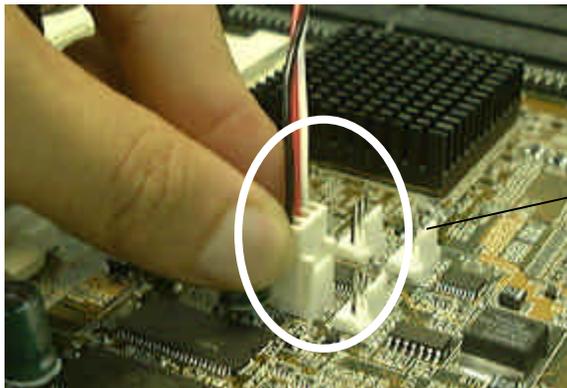
1. Lift up the socket lever and carefully place the FC-PGA CPU with the correct orientation as the figures are shown below



2. Mount the CPU heatsink with epoxy and secure it with the lock as the figures are shown below.



3. Plug the 3-wire fan power core into the connector named CPI1 FAN



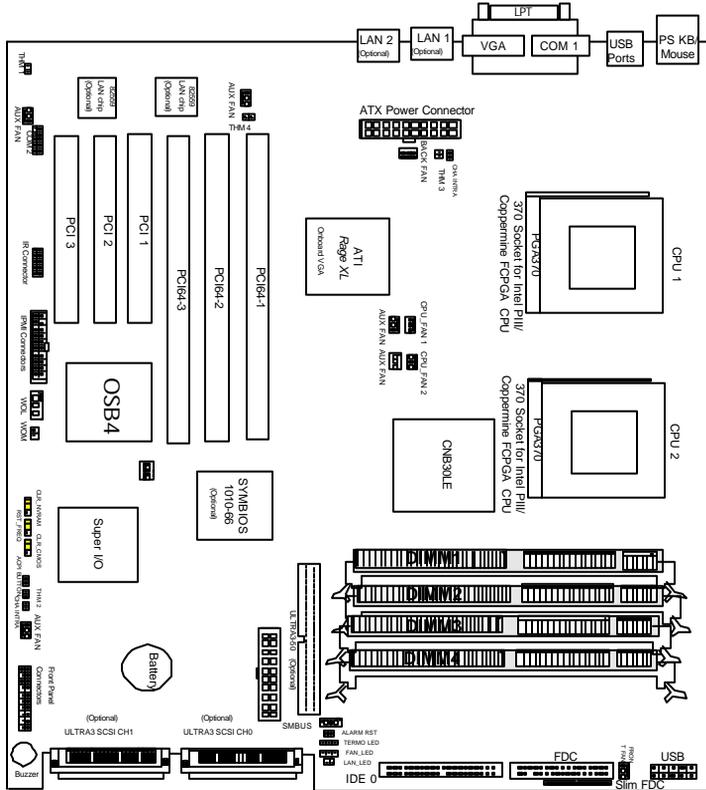
4. Repeat to install the other CPU



**Step 4.**

# Attach Cable to Connectors

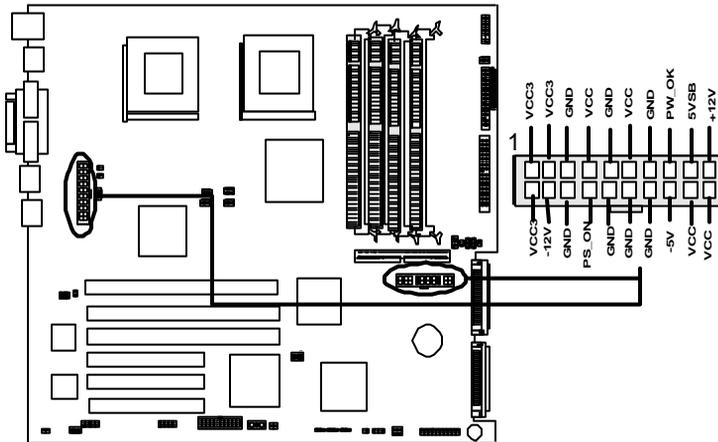
This step explains where each connector is inserted on the SDRCB. There will be a SDRCB layout picture following each explanation indicating where the connector is inserted. The motherboard connectors are:



<b>Item</b>	<b>Connectors</b>	<b>Page</b>
1	ATX Power Supply	1-13
2	Floppy Disk Drive	1-13
3	Primary IDE	1-14
4	Reset Switch	1-15
5	SCSI Hard Disk Card Activity LED	1-16
6	Suspend Power Activity LED	1-16
7	Hard Disk Activity LED	1-16
8	Speaker	1-16
9	ATX power switch/Soft Power Switch	1-16
10	System Power LED	1-16
11	Front, Back, CPU, and Aux Fans	1-16
12	IrDA Compliant infrared module	1-18
13	Wake-On-LAN	1-18
14	Wake-On-Modem	1-19
15	PS/2 Mouse	1-20
16	PS/2 Keyboard	1-20
17	USB (Universal Serial Bus)	1-20
18	Parallel Printer)	1-21
19	Onboard LAN Connector	1-21
20	Serial Port COM1 and COM2	1-21
21	Chassis Intrusion Sensor	1-22
22	System Thermal Sensor	1-23
23	SMBus Connectors	1-23
24	IPMI Connectors	1-24
25	Onboard SCSI	1-25
26	ACPI Button	1-26
27	Front-Panel LED header	1-27

### 1. ATX Power Supply (2 20-pin ATX power connectors)

The connectors connect to ATX power supply. Find the proper orientation and push down firmly to make sure that the pins are aligned. For Wake on LAN support, 5-volt Stand-by lead (+5VSB) from ATX power supply must supply at least 720mA.



### SDRCB ATX Power Connectors

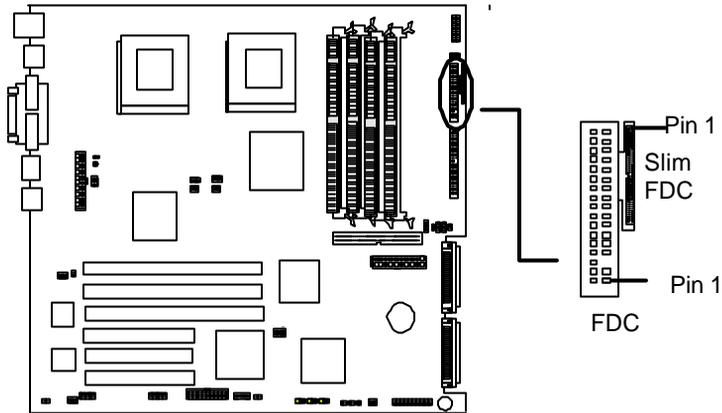


## IMPORTANT

- ❑ RIOWORKS always recommend our customers to use ATX Power that has more than 300W power capacity and is compatible with Intel ATX 2.03 specification.

### 2. Floppy Disk Drive Connector (34-pin FLOPPY)

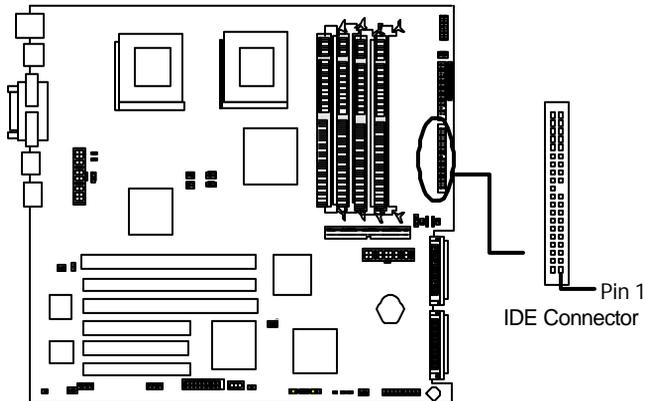
This connector supports the provided floppy disk drive ribbon cable. After connecting the single end to the board, connect the plug on the other end to the floppy drive.



### SDRCB Floppy Drive Connectors

#### 3. Primary Ultra DMA33 IDE connectors (One 40-pin IDE)

The connector support the provided 40-wire 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 in 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 now supports IDE HDD or IDE CD-ROM bootup (Pin 20 is removed to prevent inserting in the wrong orientation when using ribbon cables with pin 20 plugged).

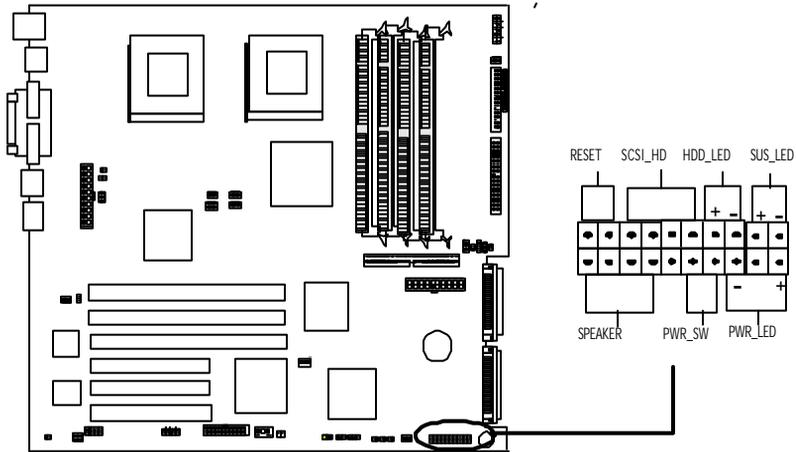


### SDRCB IDE Connectors



## IMPORTANT

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



### SDRCB Front-Panel Connectors

Figure 4-1

Item 4 through 10 are depicted in Figure 4-1 as above.

#### 4. Reset Switch (2-pin RST)

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

---

#### 5. SCSI Hard disk Card Activity LED (4-pin SCSI\_HD)

The 4-pin connector can be connected to the 4-pin activity LED connector of SCSI card, Read and Write activities by devices connected to the SCSI card will cause the front panel LED to light up.

#### 6. Hard Disk Activity LED (2-pin HDD\_LED)

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

#### 7. Suspend Power Activity LED (2-pin SUS\_LED)

This connector supplies 5V suspend power to a LED for monitoring the status of the suspend power when a system is soft-off.

#### 8. Speaker Connector (4-pin SPEAKER)

There is one jumper cap over pin1 and pin2 (default setting) for internal buzzer. If you want to use external case-mounted speaker instead of internal buzzer, remove jumper cap and connect speaker wire to the 4-pin connector.

#### 9. ATX Power Switch / Soft Power Switch (2-pin PWR\_SW)

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.

#### 10. System Power LED (3-pin PWR\_LED)

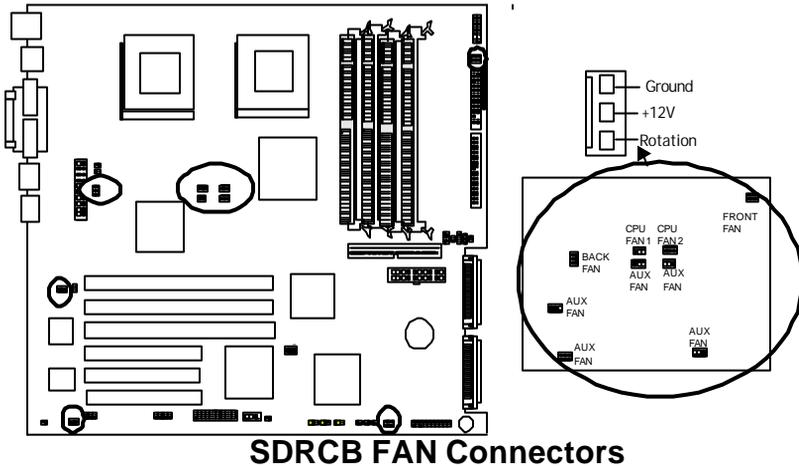
This 3-pin connector connects the system power LED, which lights up when the system is powered on and blinks when it is in sleep mode.

#### 11. Front, Back, CPU and Aux Fan Connectors (3-pin FAN):

There are nine 3-pin fan connectors in the SDRCB M/B. Two fans are used for CPU1 and CPU2; five are for auxiliary power, one is for front-side chassis and the one is rear-side chassis. These connectors support cooling fans of 500mA (6W) or less. Depending on the fan manufacturer,

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the wiring and plug may be different. The red wire should be positive, while the black should be ground. Connect the fan's plug to the board taking into consideration the polarity of this connector.



## 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.

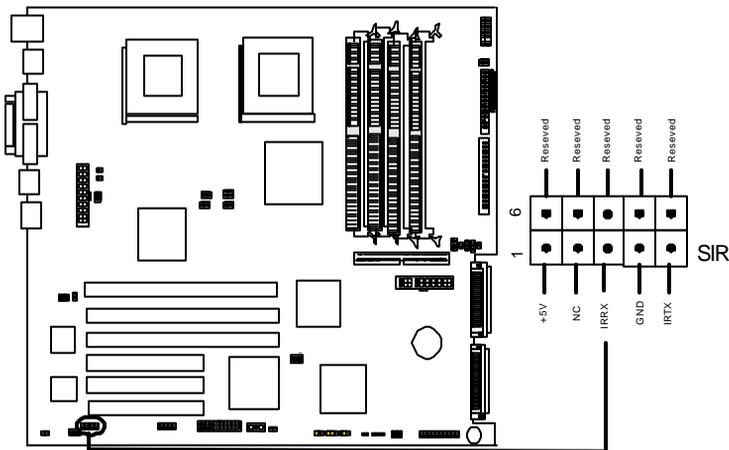


## NOTE

- ❑ The “Rotation” signal has to be used with fan specially designed with rotation signal.
- ❑ Only the fan marked CPU fan1 , CPU2 fan2 , Front fan and back fan can be monitored by BIOS.

## 12. IrDA-Compliant infrared module connector (10-pin IR connector )

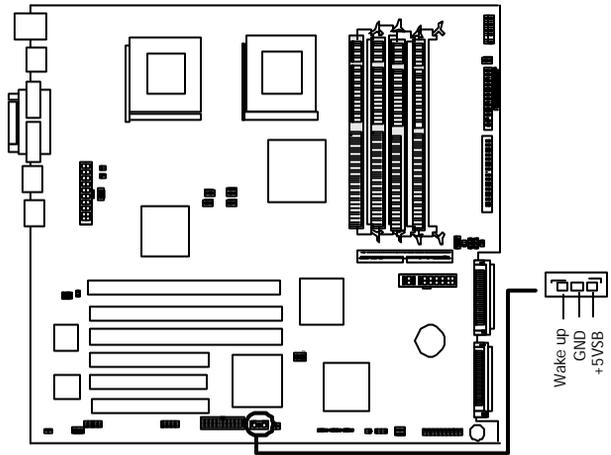
This connector supports the optional wireless transmitting and receiving infrared module. This module mounts to a small opening on system cases that support this feature. Use the five pins as shown and connect a ribbon cable from the module to the motherboard according to the pin definitions. For SIR device, connect 5 pin cable to the left side of connector (pin1~pin5).



### SDRCB Internal Infrared Connectors

## 13. Wake-On-LAN (3-pin WOL)

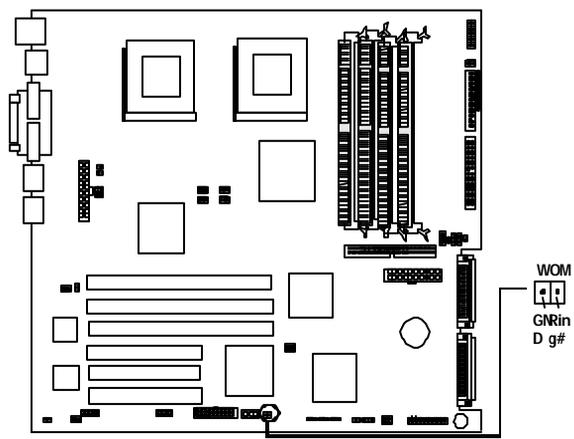
This connector connects to internal LAN cards with a Wake-On-LAN output. The connector powers up the system when a wakeup packet or signal is received through the LAN card.



### SDRCB Wake-On-LAN Connectors

#### 14. Wake-On-Modem (2-pin WOM)

This connector connects to internal modem PCI add-on-card with a Wake-On-LAN output. The connector powers up the system when a wakeup packet or signal is received through the internal modem card.



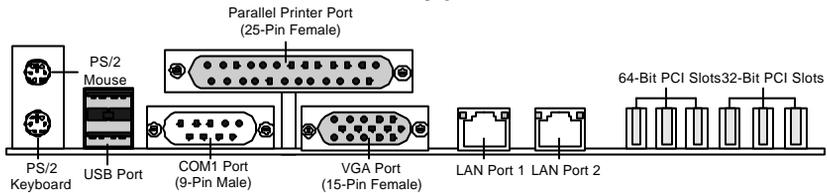
### SDRCB Wake-On-Modem Connectors



## IMPORTANT

- This feature requires that your system has an ATX power supply with at least 720mA +5VSB standby power.

Hardware  
Installation



### SDRCB External Connectors

Figure 4-2

Item 15 through 20 are depicted in Figure 4-2 as above.

#### 15. PS/2 Mouse Connector (6-pin Female)

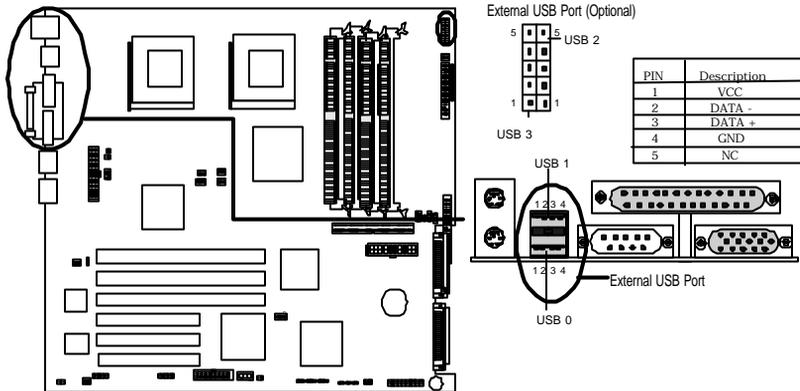
The system will direct IRQ12 to the PS/2 mouse if one is detected. If not detected, expansion cards can use IRQ12.

#### 16. PS/2 Keyboard Connector (6-pin Female)

This connection is for a standard keyboard using a PS/2 plug (mini DIN). This connector will not allow standard AT size (large DIN) keyboard plugs. You may use a DIN to mini DIN adapter on standard AT keyboards.

#### 17. Universal Serial BUS Ports I & 2 (Two 4-pin Female)

Two external USB ports and two internal USB header are available for connecting USB devices. But a user can only two of them with proper cabling for connecting USB



## SDRCB COM1/COM2 Connectors

### 18. Parallel Printer Connector (25-pin Female)

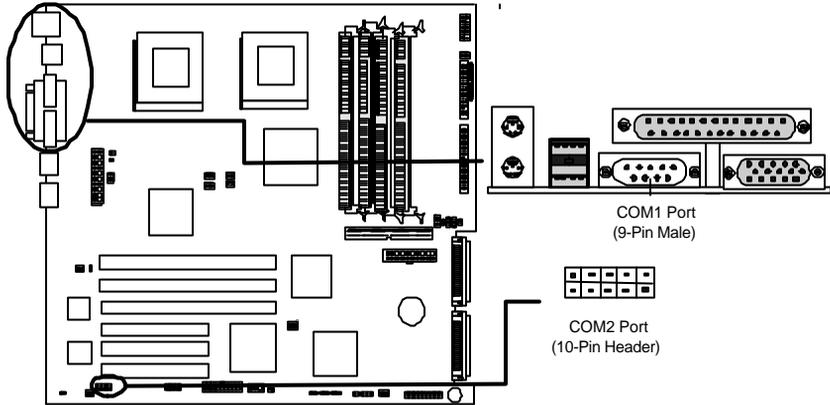
You can enable the parallel port and choose the IRQ through the BIOS Setup.

### 19. Onboard LAN Connector (Optional)

SDRCB uses Intel® 82559 Ethernet controller. It consists of both the Media Access controller and 10/100 Mbps Physical Layer (PHY) interface. The RJ45 connector provides both 10Base-T and 100Base-TX connectivity. Please refer to the “Onboard SCSI/LAN User Guide” for further information.

### 20. Serial Port COM1/2 Connectors (9-pin Male and 10-pin Header)

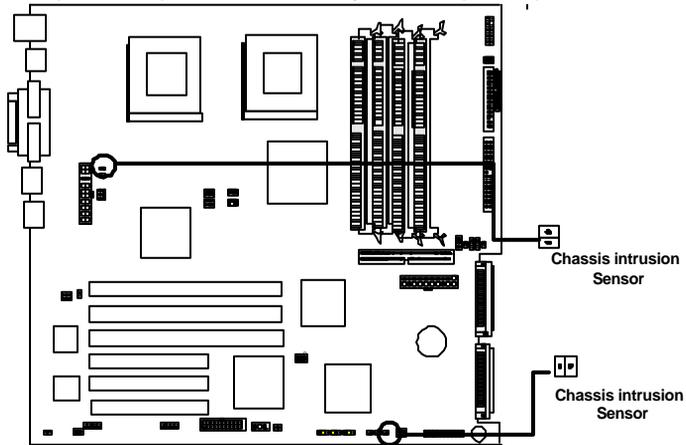
The serial port COM1 and COM2 can be used for pointing devices or other serial devices. See the BIOS Setup.



### SDRCB COM1/COM2 Connectors

#### 21. Chassis Intrusion Sensor Connector (2-pin CHA)

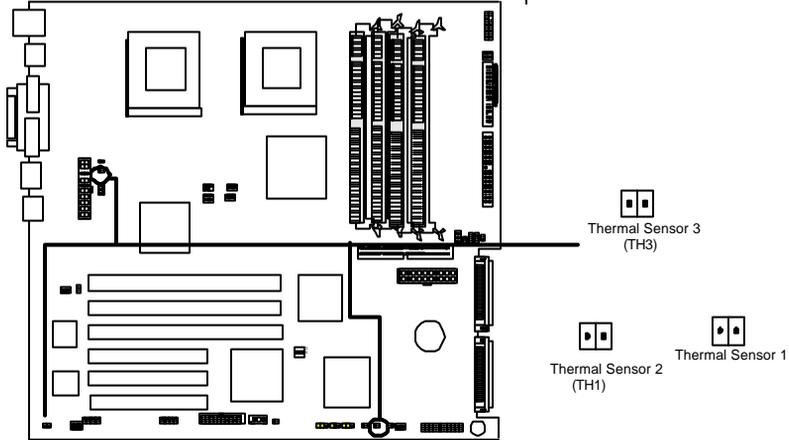
This connector is for a chassis intrusion monitor. The hardware monitor is triggered when chassis' micro-switch is opened. This occurs when the side panel is opened or driver bay door is opened.)



### SDRCB Chassis Intrusion sensor connectors

## 22. System Thermal Sensor Connector ( 2-pin SYS\_THERM)

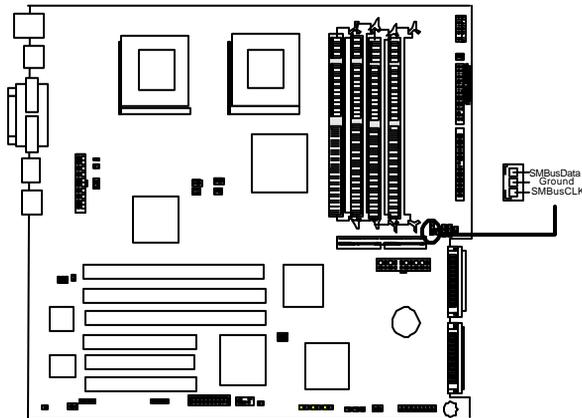
This two-pin connector provides a user to use the thermal sensor to detect the temperature of the components on motherboard.



## SDRCB Thermal Sensor Headers

### 23.SMBus Connector (Three 3-pin connector)

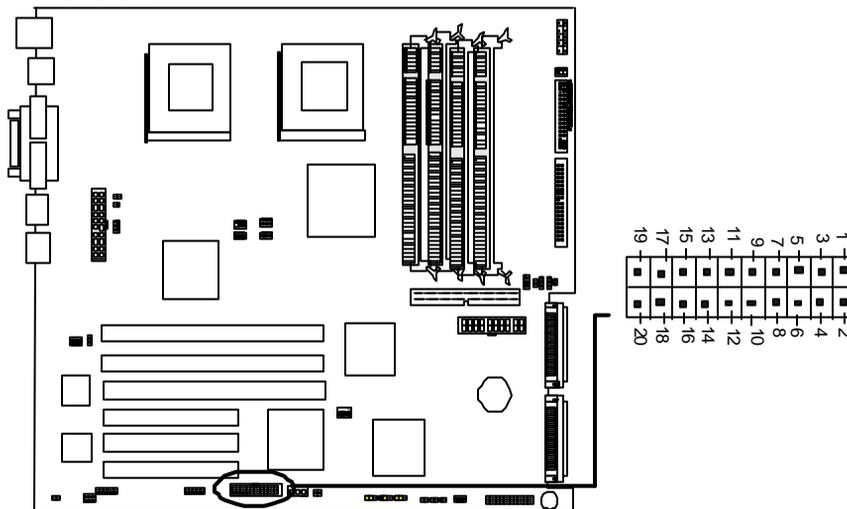
These connectors allow a user to connect SMBus (System Management Bus) devices. SMBus devices can communicate with the host or other SMBus device over SMBus that is a implementation of I<sup>2</sup>C bus.



## SDRCB SMBus Header

### 24.IPMI Connector (20-pin connector)

This 20-pin connector is for a server management add-on card featuring with IPMI function.



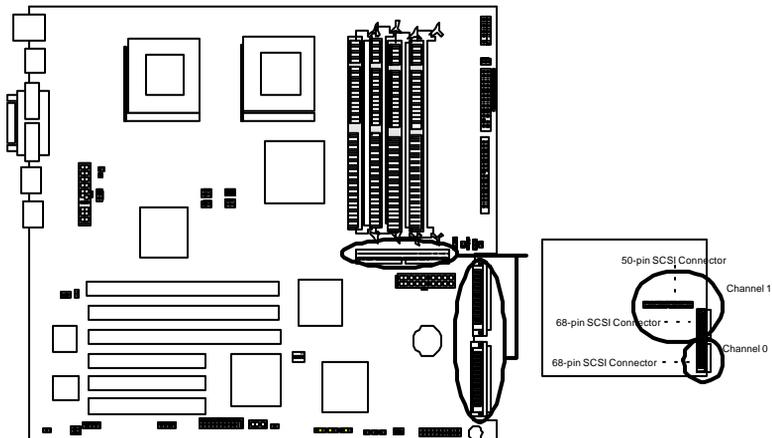
**SDRCB IPMI Feature Connector**

Pin	Signal	Description
1	SMI_L	System Management Interrupt; not supported on SMM
2	IPMB_SCL	IPMB Clock line
3	CONP_L	Connector Present-tied to ground on baseboard
4	Key	No connect on baseboard
5	PWR_CNTL_L	Power supply on/off control-allows SMM to control system power
6	IPMB_SDA	IPMB serial data line
7	5VSTNDBY	+5V standby-monitored by SMM to determine if AC power applied

8	Reserved	No connect on baseboard
9	NMI	Non-maskable interrupt: not supported on SMM
10	HOST_AUX	Baseboard voltage monitored by SMM card-connected to 3.3V
11	RESET_L	Baseboard reset signal from server monitor mouse
12	GND	Ground
13	GND	Ground
14	Key	No connect on baseboard
15	SECURE_MODE	Secure mode indication: Not supported on SMM
16	GND	Ground
17	CHASSIS_INTRUSION	Chassis intrusion indication: Not supported on SMM
18	Reserved	Reserved pin –NC on baseboard
19	Reserved	Reserved pin –NC on baseboard
20	GND	Ground

### 25.SCSI Connectors)(Optional)

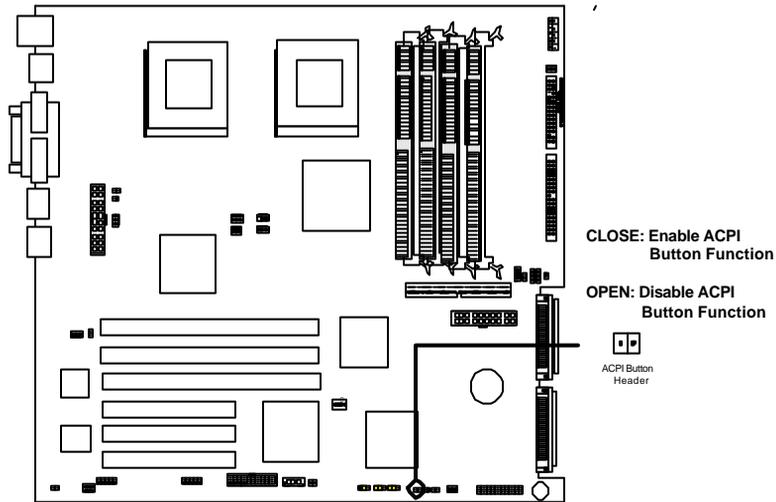
SDRCB provides two types of common internal SCSI connectors and three connectors for SCSI devices. Please refer to the “Onboard SCSI/LAN User Guide” for further information.



**SDRCB Onboard SCSI Connectors**

## 26.ACPI button (one 2-pin header)

When a user close this 2-pin header, A user is able to enable ACPI power management function by using a button.



## SDRCB ACPI Button Header

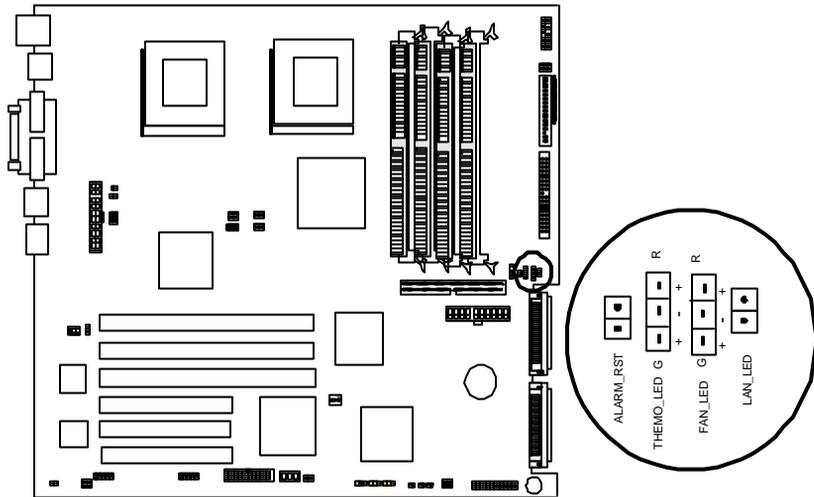
## 27.System health Header (Two 2-pin headers and Two 3-pin headers)

SDRCB provides two 2-pin LED, one 3-pin LED and one 2-pin Alarm reset headers for front-panel system health status. When the CPU 1/CPU2 temperature and /CPU1/CPU2/Front\_Fan/Back\_Fan speed is over alert threshold or the network link loss, system occur audio alarm signal to alert the network administrator. Please also check the System Health Monitoring Hardware in the BIOS setup for Alarm threshold setup.



## NOTE

This header is only for RIOWORKS 1U solution. Users may not found these LED wires in the front panel of their chassis.



## SDRCB Front-Panel LED Header

Header	Description	Normal	Abnormal
ALARM_RST	Reset the Alarm status when abnormal situation is solved.		
THEMO_LED	Detect if CPU1/CPU2 temperature of the motherboard is over threshold value in the BIOS setup.	Green	Red
FAN_LED	Detect if the CPU1/CPU2/FRONT_FAN/BACK_FAN speed is over threshold value in the BIOS setup.	Green	Red
LAN_LED	Detect if the Network connections of onboard LAN1/LAN2 is broken.		Red

---

Step 5.

## ***Install Expansion Cards***



### **WARNING**

- ❑ **Power off your power supply completely when adding 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, such as 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 removed above.
- 1.5 Jump to step 6 to finish 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, marked with “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
  - External SCSI devices (starting with the last device on the chain)
  - 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 <Delete> to enter 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 AMIBIOS™ Setup program built into the ROM BIOS. The Setup program allows users modifying the basic system configurations according to their requirements. This special information is then stored in battery-backed RAM so that it retains the Setup information when the power is turned off.

The AMIBIOS™ 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 AMIBIOS™ 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 AMIBIOS™ 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, then BIOS will continue to seek an operating system on one of the disks, launch 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 <Del> key when the following message appears briefly at the bottom of the screen during the POST (Power On Self-Test).

**Press DEL to enter SETUP.**

2. By pressing <Del> immediately after switching the system on.

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

**PRESS F1 TO CONTINUE, DEL TO ENTER SETUP**

## ***Using Setup***

In general, you use the arrow keys to highlight items, press <Enter> to select, press <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	Select a BIOS main category (Screen)
Right Arrow(→) Key	Select a BIOS main category (Screen)
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 pop-up selection will display on the screen and allows to set the item value.
Tab Key	Select the field
+ Key	Change the field value of the item
- Key	Change the field value of the item
F1 Key	General Help
F2 /F3 Key	Change the background color
F7 Key	Discard Changes
F8 Key	Load Failsafe Defaults
F9 Key	Load Optimal Defaults
F10 key	Save 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 the menu you want to be in.

**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.

---

## ***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 AMIBIOS™ supports an override to the CMOS setting, which resets your system to its defaults. The other way is clear the present CMOS information.(Refer to the jumper setting on the page1-2 )

The best advice is to only alter settings, which you thoroughly understand. In the end , we strongly recommend that you avoid making any changes to the chipset defaults. These defaults have been carefully chosen by both AMIBIOS™ and RIOWORKS™ to provide the maximum performance and reliability of the system . Even a slight change to the chipset setup may also cause potential and unpredictable failure to the system.

---

## Section 1

# Setup Categories

Once you enter the AMIBIOS™ CMOS Setup Utility, several setup categories will appear on top of the screen. Each setup category may contain several setup sub-categories or setup items. Use the arrow keys to select a category and press <Enter> key to accept and enter the sub-menu.

BIOS SETUP UTILITY			
Main	Advanced	Chipset	PCI/PnP Power Boot Security Exit
AMIBIOS Version	:	07.00.xx	
BIOS Build Date	:	07/27/00	
BIOS ID	:	0AAVQ007	
Processor Type	:	Pentium III ( tm)	
Processor Speed	:	850MHz	
System Memory	:	256MB	
System Time	:	[03:18:42]	
System Date	:	[Mon 08/09/2000]	
- [F10] Select Screen - [F5] Select Item + [F6] Change Field Tab Select Field F1 General Help F10 Save and Exit Esc Exit			
V02.03 ( C) Copyright 1985-2000, American Megatrends Inc.			

BIOS  
Setup

Note that a brief description of each highlighted selection appears at the bottom of the screen.

## Setup Items

The main menu includes the following main setup categories.

---

**Main**

Use this menu for basic system configurations, such as BIOS information, CPU information, installed memory size and system clock settings. See Section 2 for details.

---

**Advanced**

Use this menu to enable and make changes to the advanced features. This menu provides five options as shown below.

<b>Super IO Configuration</b>	Use this option to configure your system's Input/output devices such as Serial port 1 /2 and parallel port. See Section 3 for details.
<b>IDE Configuration</b>	Use this option to configure your IDE device such as IDE HDDs, ATAPI devices. See Section 3 for details.
<b>Floppy Configuration</b>	Use this option to configure your floppy drives. See Section 3 for details.
<b>Boot Configuration</b>	Use this option to configure the system during the system booting up. See Section 3 for details.
<b>Event log Configuration</b>	Use this option to set the event log. See Section 3 for details.
<b>System Health Monitoring Hardware</b>	Use this option to set the Alert/Warning threshold of temperature, voltage and fan speed. See Section 3 for details.

---

**Chipset**

Use this option to change the values in the chipset registers and optimize your memory and VGA add-on card performance. See section 4 for details.

---

**PCI Pnp**

This option allows a user configuring PCI/Plug and Play devices. See section 5 for details.

---

**Power**

Use this option to specify your settings for power management. See section 6 for details

---

**Boot**

Use this option to specify your settings for device Boot sequence. See Section 7 for details.

---

**Security**

This option allows a user configuring the password level for security. See Section 8 for details.

---

**Exit**

There are five options in this selection. See Section 9 for details.

Exit Saving Changes	Stores the all present setting values a user made in this time into CMOS.
Exit Discarding Changes	Continue to use previous CMOS setup values without making any change and exit setup.
Load Optimal Defaults	Provide optimum performance settings for all devices and system features.

---

---

Load Failsafe Defaults	Consist of the safest setup values for all setup parameters. Choose it when system is not able to boot or work properly. This selection should always work but do not provide optimal system performance characteristics.
Discarding Changes	Continue to use previous CMOS setup values without making any change.



<b>BIOS ID</b>	This field only displays the BIOS ID of the SDRCB
<b>Processor Type</b>	This field will displays the type of present CPU
<b>Processor Speed</b>	This field will displays the maximum speed of present CPU
<b>System Memory</b>	This field will displays the installed memory size
<b>System Time</b>	Set the system time ( <i>HH: MM: SS</i> )
<b>System Date</b>	Set the system date. Note that the 'Day' automatically changes After you set the date. (Weekend DD:MM:YY) YY: 1990~2099



### Note

- This option may only need to re-setup when installing a new hardware in your computer or losing the system configurations of CMOS because of unpredictable events. If the motherboard is installed in the working system, a user will not need to configure data in this option again.

Section 3

## Advanced Menu

This section "Advanced" will be divided by six sub-menus.

- ❑ **Super IO Configuration**
- ❑ **IDE Configuration**
- ❑ **Floppy Configuration**
- ❑ **Boot Configuration**
- ❑ **Event log Configuration**
- ❑ **System Health Monitoring Hardware**

With this section, allows a user to configure your system for basic operation. A user can change the system's default boot-up sequence, keyboard operation, shadowing and security, and so on.

### 3-1: Super IO Configuration

SuperIO Chipset Nat317	
Advanced	
Configure Nat317 Serial Port(s) and Parallel Port	
Serial Port1 Address	[3F8]
Serial Port1 Irq	[4]
Serial Port2 Address	[2F8]
Serial Port2 Irq	[3]
Serial Port2 Mode	[Normal]
Parallel Port Address	[378]
Parallel Port IRQ	[7]
Parallel Port Mode	[ECP]
ECP Mode DMA Channel	[3]
	-- [⊕] Select Screen -- Select Item +- Change Field Tab Select Field F1 General Help F10 Save and Exit Esc Exit
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**Serial Port Address**

This option specifies the base I/O port address of serial port 1.  
The choices: *Disabled, 3F8 (Default), 2E8, 3E8, 2E8*

**Serial Port 1 IRQ**

This option specifies the IRQ# of the serial port 1.  
The choices: *Disabled, 3, 4 (Default)*

**Serial Port 2 Address**

This option specifies the base I/O port address of serial port 2.  
Note: If one port address is assigned to serial port 1, that address will be not able to resign to serial port 2.  
The choices: *Disabled, 3E8 (Default), 2E8, 2E8, 3F8*

**Serial Port 2 IRQ**

This option specifies the IRQ# of the serial port 2.  
The choices: *Disabled, 4, 3 (Default)*

**Serial Port 2 Mode**

This option specifies the operating mode for serial port 2. Set this option to Normal when the system doesn't use IR.  
The choices: *Normal (Default), Sharp-IR, SIR, Consumer*

**IR Duplex Mode**

This option specifies the infrared transmission method. The settings are Full or Half. This option only appear if the "Serial Port2" is not set to "Disabled"  
The choices: *Half Duplex (Default), Full*

Mode	Description
<i>Full Duplex</i>	Data is transmitted in two directions at once. Any data you send will not appear on your screen until it has been received by the other device and sent back to you. Full duplex is the faster of the two modes

<i>Half Duplex</i> <b>(Default)</b>	Data is transmitted in only one direction at a time. Any data you send will be instantly displayed on your screen. Half duplex mode is easier for the devices to execute. Not all IR-capable devices can handle full duplex mode.
--	---

---

**IR Received Pin**

This option specifies which pin will act as the receiver for IR data transmission. Whether the system does or does not use the IR, make sure the you adjust the setting accordingly  
The choices: *IRXX1(Default), IRXX2*

---

**Parallel Port Address**

This option specifies the base I/O address of the parallel port on the motherboard.  
The choices: *Disabled (Default), 378,278,3BC*

---

**Parallel Port IRQ**

This option specifies the IRQ# used by the parallel port.  
The choices: *7(Default), 5*

---

**Parallel Port Mode**

This option specifies the parallel port mode.  
The choices: *ECP (Default), Normal, Bi-Directional, EPP*

Setting	Description
Normal	The normal parallel pro mode is used.
Bi-Directional	Use this setting to support bi-directional transfers on the parallel port.

**ECP Mode  
DMA Channel**

EPP	The parallel port can be used with devices that adhere to the Enhanced Parallel Port (EPP) specification. EPP uses the existing parallel port signal to provide asymmetric bi-directional data transfer driven by the host device.
ECP	The parallel port can be used with devices that adhere to the Extended Capabilities Port (ECP) specification. ECP uses the DMA protocol to achieve data transfer rate up to 2.5Mbit/s. ECP provides symmetric bi-directional communication

This option is only available if the setting for the "Parallel Port Mode" option is "ECP". This option sets the DMA channel used by parallel port.

The choices: 0,1,2,3 (**Default**)

## 3-2:IDE Configuration

BIOS SETUP UTILITY		
Advanced		
<b>IDE Configuration</b>		DISABLED: Disables the integrated IDE Controller. Primary: enables only the Primary IDE Controller. SECONDARY: enables only the Secondary IDE Controller. Both: enables both IDE Controllers.  → Ⓞ Select Screen - - Select Item +- Change Field Tab Select Field F1 General Help F10 Save and Exit Esc Exit
OnBoard PCI IDE Controller	[Enabled]	
> Primary IDE Master	[Hard Disk]	
> Primary IDE Slave	[ATAPI CDROM]	
> Secondary IDE Master	[Not Detected]	
> Secondary IDE Salve	[Not Detected]	
Hard Disk Write Protect	[Disabled]	
ATA(PI) Detect Time Out (Sec)	[3.5x]	
ATA(PI) 80Pin Cable Detection	[Host & Device]	
V02.03 ( C ) Copyright 1985-2000. American Megatrends Inc.		

**BIOS Setup**

### **Onboard PCI IDE Controller**

DISABLED: Disables the integrated IDE Controller.  
 Primary: enables only the Primary IDE Controller.  
 SECONDARY: enables only the Secondary IDE Controller.  
 The choices: Disabled(**Default**), Enabled

**Primary /Secondary IDE Master/Slave**

While entering setup BIOS auto detects the presence of IDE devices. This displays the status of auto detection of IDE devices

**BIOS Setup**

BIOS SETUP UTILITY	
Advanced	
<b>Primary IDE Master</b>	
Device	Hard Disk
Vendor	QUANTUM FIREBALLP KA
Size	9.2GB
LBA Mode	Supported
Block Mode	16Sectors
PIO Mode	4
Async DMA	MultiWord DMA-2
Ultra DMA	Ultra DMA-2
S.M.A.R.T	Supported
Type	[Auto]
LBA/Large Mode	[Auto]
Block(Multi-Sector Transfer_ M	[Auto]
PIO Mode	[Auto]
DMA Mode	[Auto]
S.M.A.R.T	[Auto]
32Bit Data Transfer	[Auto]
ARMD Emulation Type	[Auto]
- @ Select Screen - - Select Item +- Change Field Tab Select Field F1 General Help F10 Save and Exit Esc Exit	
V02.03 ( C ) Copyright 1985-2000. American Megatrends Inc.	

**Device**

This filed displays the device type in the specific IDE channel

**Vendor**

This filed displays the device vendor in the specific IDE channel

**Size**

This filed displays the capacity of the device in the specific IDE channel

<b>LBA Mode</b>	This field shows if the device in the specific IDE channel supports LBA mode
<b>Block Mode</b>	This field displays the Block mode of the device in the specific IDE channel
<b>PIO Mode</b>	This field displays the PIO mode of the device in the specific IDE channel
<b>Async DMA</b>	This field displays the DMA mode of the device in the specific IDE channel
<b>Ultra DMA</b>	This field displays the DMA mode of the device in the specific IDE channel
<b>S.M.A.R.T</b>	This field shows if the device in the specific IDE channel supports S.M.A.R.T
<b>Type</b>	<p>The field allows a user to set the device type. RIOWORKS recommend a user to set the option "Auto"</p> <p>The choices: <i>Auto (Default), Not Installed/CD-ROM, ARMD (ATAPI Removable Media Device)</i></p>
<b>LBA/Large Mode</b>	<p>Disabled: Disables LBA Mode</p> <p>Auto: Enables LBA Mode if the device supports it and the device is not already formatted with LBA mode disabled.</p> <p>The choices: <i>Disabled (Default), Auto</i></p>
<b>Block (Multi-Sector Transfer)</b>	<p>Disabled: The data transfer from and to the device occurs one sector at a time.</p> <p>Auto: The data transfer from and to the device occurs multiple sectors at a time if the device supports it.</p> <p>The choices: <i>Disabled (Default), Auto</i></p>
<b>PIO Mode</b>	<p>This option allows a user to select the PIO mode.</p> <p>The choices: <i>Auto (Default), 0, 1, 2, 3</i></p>

---

**DMA Mode**

The choices: *Auto (Default), SWDMA0, SWDMA1, SWDMA2, MWDMA0, MWDMA1, MWDMA2, UDMA0, UDMA1, UDMA2, UDMA3, UDMA4.*

---

**S.M.A.R.T**

Set this option “Enabled” to permit BIOS to use the SMART (Self-Monitoring Analysis and Reporting Technology) protocol for reporting server system information over a network.

The choices: *Auto (Default), Disabled, Enabled*

---

**32 Bit Data Transfer**

This option allows a user to set if enable 32Bit data transfer.

The choices: *Disabled (Default), Enabled*

---

**ARMD Emulation Type**

This option allows a user to select ARMD device emulation type by BIOS.

The choices: *Disabled (Default), Floppy, Hard disk*

---

**Hard Disk Write Protect**

This option allows a user to set if enable device write protection. This will be effective only if a device is accessed through BIOS.

The choices: *Enabled (Default), Disabled*

---

**ATA(PI) Detect time out (second)**

This option allows a user to set the time out value for detecting ATA/ATAPI device(s)

The choices: *0.5x,1.0x,1.5x,2.0x,3.0x,3.5x*

---

**ATA(PI) 80 pin Cable Detection**

This option allows a user to select the mechanism for detecting 80Pin ATA(PI) Cable.

The choices: *Host & Device (Default), Host, Device*

### 3-3: Floppy Configuration

BIOS SETUP UTILITY	
Advanced	
<b>Floppy Configuration</b>	
Floppy A	[1.44 MB 3 ½ "]
Floppy B	[Disable]
Diskette Write Protect	[Disable]
Floppy Device Seek	[Disable]
	→ Ⓜ Select Screen - - Select Item +- Change Field Tab Select Field F1 General Help F10 Save and Exit Esc Exit
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#### Floppy A/ Floppy B

This option allows a user to select the floppy drive type  
 The choices for floppy A: *Disabled, 360KB, 1.2MB, 720KB, 1.44MB (Default), 2.88MB*  
 The choices for floppy B: *Disabled (Default), 360KB, 1.2MB, 720KB, 1.44MB, 2.88MB*

#### Disk Write Protect

This option allows a user to set if enable device write protection. This will be effective only if the device is accessed through BIOS  
 The choices : *Disabled (Default), Enabled*

#### Floppy Drive Seek

Set this option to " Enabled" to specify that floppy drive A: will perform a Seek operation at a system boot.  
 The choices : *Disabled (Default), Enabled*

## 3-4: Boot Configuration

BIOS SETUP UTILITY		
Advanced		
<b>Boot Setting Configuration</b>		
Quick Boot	[Enabled]	
Quiet Boot	[Disable]	
AddOn ROM Display mode	[Force BIOS]	
Bootup Num-Lock	[On]	
Bootup CPU Speed	[High]	
PS/2 Mouse Support	[Enabled]	
Typematic Rate	[Fast]	
System Keyboard	[Present]	
Primary Display	[VGA/EGA]	
Parity Check	[Disabled]	
Boot To OS/2	[No]	
Wait For 'F1' If Error	[Enabled]	
Hit 'DEL' Message Display	[Enabled]	
Internal Cache	[Write-Back]	
System BIOS Cacheable	[Enabled]	
		→ Ⓜ Select Screen - - Select Item +- Change Field Tab Select Field F1 General Help F10 Save and Exit Esc Exit
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BIOS  
Setup

### Quick Boot

Set this option to Enabled to instruct BIOS to boot quickly when the computer is powered on. Only check  
The choices: *Disabled, Enabled(Default)*

### Quiet Boot

Disabled: Displays normal POST messages.  
Enabled: Displays OEM Logo instead of POST messages.  
The choices: *Disabled (Default), Enabled*

---

**Addon ROM Display Mode**

This option allows a user to force the system to shown some important configuration message of the add-on adapter card when the selection “ Initial Display Mode” is set “ Silent”

The choices: *Force BIOS(***Default***), Keep Current*

---

**Boot up NUM-Lock**

Set this option “On” to turn the Num Lock key On at system boot.

The choices: *On (***Default***),Off.*

---

**Boot up CPU Speed**

This option allows a user to set the CPU speed during booting up the system

The choices : *High (***Default***),Low.*

---

**PS/2 mouse support**

Set this option “Enabled” to allow BIOS support for a PS/2-type mouse.

The choices : *Enabled (***Default***),Disabled.*

---

**Typematic Rate**

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

The choices: *Fast(***Default***),Slow.*

---

**System keyboard**

This option does not specify if a keyboard is attached to the computer. Rather, it specifies if error message are displayed if a keyboard is not attached. This option permits you to configure workstation with no keyboards.

The choices: *Present(***Default***),Absent.*

---

**Primary Display**

This option configures the type of monitor attached to the computer.

The choices: *Monochrome, CGA40x25, CGA80x25, VGA/EGA (***Default***), or Absent.*

---

**Parity check**

Set this option to “Enabled” to check the parity of all system memory.

The choices: *No (Default), Yes*

**Boot to OS/2**

Set this option “Yes” if running OS/2 operating system and using more than 64 MB of system memory on the motherboard.

The choices: *Yes, No (Default).*

---

**Wait for “F1”  
Error**

BIOS POST runs system diagnostic tests that can generate a message followed by:

**Press <F1> to Continue**

If this option is set to “Enabled”, BIOS waits for the user to press <F1> before continuing. If this option is set to “Disabled”, BIOS continue the boot process with waiting for <F1> to be pressed.

The choices : *Enabled (Default), Disabled.*

---

**Hit “DEL”  
message  
Display**

Set this option to “Disabled” to prevent from appearing when the system boots.

**Hit <DEL> if you want to run Setup**

The choices : *Enabled (Default), Disabled.*

---

**Internal  
Cache**

This option sets the type of caching algorithm used by the L1 internal cache memory on the CPU.

The choices: *WriteBack (Default), WriteThru, Disabled, Reserved.*

---

**System BIOS  
Cacheable**

When set to Enabled, the contents of the F0000h system memory segment can be read from or written to cache memory. The contents of this memory segment are always copied from the BIOS ROM to system RAM for faster execution.

The choices: *Enabled (Default)* , *Disabled*

### 3-5:Event log Configuration

BIOS SETUP UTILITY	
<a href="#">Advanced</a>	
<b>Event Log Configuration</b>	
Event Log	: Space Available
Event Log Data	Valid
Event Logging	[Enabled]
ECC Event Logging	[Disabled]
Clear All Event Log	[No]
> View Event Log	
> Mark All Event as Read	
- @ Select Screen	
- - Select Item	
+- Change Field	
Tab Select Field	
F1 General Help	
F10 Save and Exit	
Esc Exit	
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**BIOS  
Setup**

---

**Event Log  
Area**

This filed only display information.

The choices: Space Available

<b>Event Log Data</b>	This field only display data information. The choices: Valid
<b>Event Logging</b>	This option allows a user to set if log events The choices: <i>Disabled</i> , <i>Enabled</i> ( <b>Default</b> )
<b>ECC Event Logging</b>	This option allows a user to set if log ECC events The choices: Disabled ( <b>Default</b> ), Enabled
<b>Clear all event logs</b>	This option allows a user to clear the previous event log. The choices: <i>No</i> ( <b>Default</b> ), Yes
<b>View Event Log</b>	This field only display unread events from event area.
<b>Mark All Events As Read</b>	Mark all events in the event log area as read.

### 3-6: System Health Monitoring Hardware

BIOS SETUP UTILITY	
Advanced	
<b>System Health Monitoring</b>	
➤ Configure CPU-1 Plate Temperature	
➤ Configure CPU-2 Plate Temperature	
➤ Configure CPU-1 Core Voltage	
➤ Configure CPU-2 Core Voltage	
➤ Configure VTT 1.5 Voltage	
➤ Configure VCC 3.3 Voltage	
➤ Configure VCC Standby Voltage	
➤ Configure VCC 12 Voltage	
➤ Configure VCC -12 Voltage	
	→ Ⓜ Select Screen -- Select Item +- Change Field Tab Select Field F1 General Help F10 Save and Exit Esc Exit

<ul style="list-style-type: none"> <li>➤ Configure CPU-1 Fan Speed</li> <li>➤ Configure CPU-2 Fan Speed</li> </ul>	
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### 3.6.1. Configure CPU-1/CPU-2 plate Temperature

<hr/> <b>Current CPU-1 /CPU-2 Plate Temp</b>	This field only displays the current CPU-1/CPU-2 temperature.
<hr/> <b>CPU-1 /CPU-2 Plate Phy-High</b>	This field only displays the highest allowed temperature of CPU-1/CPU-2.
<hr/> <b>CPU-1 /CPU-2 Plate Phy-Low</b>	This field only displays the lowest allowed temperature of CPU-1/CPU-2.
<hr/> <b>CPU-1 /CPU-2 Plate Temp High Alert</b>	This field allows a user to set the high alert value of CPU. If the operating temperature of CPU is over this set value, system will alarm . <b>Note:</b> Highest allowed value of High Alert is the value of Physical High Limit.
<hr/> <b>CPU-1 /CPU-2 Plate Temp High Warning</b>	This field allows a user to set the high warning value of CPU. If the operating temperature of CPU is over this set value, system will warn the user. <b>Note:</b> Highest allowed value of High Warning can not exceed the current set value of High Alert.



**CPU-1 /CPU-2  
Plate  
Temp Low  
Warning**

This field allows a user to set the low warning value of CPU. If the operating temperature of CPU is below this set value, system will warn the user.  
**Note:** Highest allowed value of Low Warning can not bellow the current set value of High Alert.

**CPU-1 /CPU-2  
Plate  
Temp Low  
Alert**

This field allows a user to set the low alert value of CPU. If the operating temperature of CPU is below this set value, system will alert the user.  
**Note:** Lowest allowed value of Low Alert is the value of Physical Low Limit.

### 3.6.2. Configure System Voltage

**Current CPU-1  
Core /CPU-2 Core/  
VTT1.5/ VCC 3.3/  
VCC Standby /  
VCC 12/ VCC -12  
Voltage**

This field only displays the Current CPU-1 /CPU-2/VTT1.5/VCC 3.3/VCC Standby /VCC 12/ VCC -12 Voltage.

**CPU-1 Core /CPU 2  
Core / VTT1.5/ VCC  
3.3/ VCC Standby /  
VCC 12/ VCC -12  
Volt Phy-High**

This field only displays the highest allowed Voltage of CPU-1 Core /CPU 2 Core / VTT1.5/ VCC 3.3/ VCC Standby / VCC 12/ VCC -12.

**CPU-1 /CPU-2/  
VTT1.5/ VCC 3.3/  
VCC Standby /  
VCC 12/ VCC -12  
Volt Phy-Low**

This field only displays the lowest allowed voltage of CPU-1 Core /CPU 2 Core / VTT1.5/ VCC 3.3/ VCC Standby / VCC 12/ VCC -12.

---

**CPU-1 Core/CPU-2  
Core/ VTT1.5/ VCC  
3.3/ VCC Standby /  
VCC 12/ VCC -12  
Voltage High Alert**

This field allows a user to set the high alert value of CPU-1 Core /CPU 2 Core / VTT1.5/ VCC 3.3/ VCC Standby / VCC 12/ VCC -12 . If the operating voltage of CPU-1 Core /CPU 2 Core / VTT1.5/ VCC 3.3/ VCC Standby / VCC 12/ VCC -12 is over this set value, system will alarm.

**Note:** Highest allowed value of High Alert is the value of Physical High Limit.

---

**CPU-1 Core/CPU-2  
Core/ VTT1.5/ VCC  
3.3/ VCC Standby /  
VCC 12/ VCC -12  
Voltage High  
Warning**

This field allows a user to set the high warning value of CPU-1 Core/CPU-2 Core/ VTT1.5/ VCC 3.3/ VCC Standby / VCC 12/ VCC -12 Voltage . If the specific operating voltage were over this set value, system will warn the user.

**Note:** Highest allowed value of High Warning can not exceed the current set value of High Alert.

---

**CPU-1 Core/CPU-2  
Core/ VTT1.5/ VCC  
3.3/ VCC Standby /  
VCC 12/ VCC -12  
Voltage Low  
Warning**

This field allows a user to set the low warning value of CPU-1 Core/CPU-2 Core/ VTT1.5/ VCC 3.3/ VCC Standby / VCC 12/ VCC -12 Voltage. If the specific operating voltage is below this set value, system will warn the user.

**Note:** Highest allowed value of Low Warning can not bellow the current set value of High Alert.

---

**CPU-1 Core/CPU-2  
Core/ VTT1.5/ VCC  
3.3/ VCC Standby /  
VCC 12/ VCC -12  
Voltage Low Alert**

This field allows a user to set the low alert value of CPU-1 Core/CPU-2 Core/ VTT1.5/ VCC 3.3/ VCC Standby / VCC 12/ VCC -12 Voltage . If the specific operating voltage were below this set value, system would alert the user.

**Note:** Lowest allowed value of Low Alert is the value of Physical Low Limit.

---

### 3.6.3. Configure CPU-1/CPU-2 Fan Speed

---

**Current CPU-1  
/CPU-2 Fan  
Speed**

This field only displays the current CPU-1/CPU-2 fan speed.

---

**CPU-1 /CPU-2  
Fan Speed  
Phy-High**

This field only displays the highest allowed value of CPU-1/CPU-2 fan speed.

---

**CPU-1 /CPU-2  
Plate  
Phy-Low**

This field only displays the lowest allowed value of CPU-1/CPU-2 fan speed.

---

**CPU-1 /CPU-2  
Fan Speed  
High Alert**

This field allows a user to set the high alert value of CPU. If the operating fan speed of CPU is over this set value, system will alarm.

**Note:** Highest allowed value of High Alert is the value of Physical High Limit.

---

**CPU-1 /CPU-2  
Fan Speed  
High Warning**

This field allows a user to set the high warning value of CPU. If the operating fan speed of CPU is over this set value, system will warn the user.

**Note:** Highest allowed value of High Warning can not exceed the current set value of High Alert.

---

**CPU-1 /CPU-2  
Fan Speed  
Low Warning**

This field allows a user to set the low warning value of CPU. If the operating fan speed of CPU is below this set value, system will warn the user.

**Note:** Highest allowed value of Low Warning can not bellow the current set value of High Alert.

---

---

**CPU-1 /CPU-2  
Fan Speed  
Low Alert**

This field allows a user to set the low alert value of CPU. If the operating fan speed of CPU is below this set value, system will alert the user.

**Note:** Lowest allowed value of Low Alert is the value of Physical Low Limit.

Section 4

## Chipset Menu

This section allows you to configure the system based on the specific features of the built-in chipset. This chipset manages bus speeds and access to system memory resources. The default settings have been chosen carefully for your system in order to provide the optimal system performance. You might only need to set up these values again by loading optimal defaults or fail-safe defaults if you discovered the data stored in the CMOS was being lost or not correct and system is not longer to boot again or wrong operations.

BIOS SETUP UTILITY							
Main	Advanced	Chipset	PCIPnp	Power	Boot	Security	Exit
C000,16k Shadow		[Cache]					
C400,16k Shadow		[Cache]					
C800,16k Shadow		[Disabled]					
CC00,16k Shadow		[Disabled]					
D000,16k Shadow		[Disabled]					
D400,16k Shadow		[Disabled]					
D800,16k Shadow		[Disabled]					
DC00,16k Shadow		[Disabled]					
Memory Scrubbing		[Disabled]					
Memory Timing Control		[Manual]					
Act to Deact		[6 Clks]					
Act to Read/Write		[3 Clks]					
RAS Precharge Tme		[3 Clks]					
RAS Cycle Time		[8 Clks]					
Write to Deact		[2 Clks]					
SDRAM CAS Latency		[CAS Latency 3]					
ISA IO Cycle Delay		[[1.5 BCLK]					
MPS 1.4 support		[Enabled]					
						-- [F6] Select Screen -- Select Item +- Change Field Tab Select Field F1 General Help F10 Save and Exit Esc Exit	

CPU Clock to FSB Ratio	[8.5x]
Onboard LAN1	[Enabled]
Onboard LAN2	[Enabled]



## Note

- Such a scenario may occur if your system has been mixed different speed DRAM chips. A greater delay may be required to preserve the integrity of the data held in the slower memory chips.

### **C000, 16K** **C400, 16K** **Shadow**

This item controls the location of the contents of video ROM. The choices:

Setting	Description
<i>Enabled</i>	The contents of the video ROM area (C0000h – C7FFFh) are written to the corresponding address in RAM.
<i>Cached</i> (Default)	The contents of the video ROM area (C0000h – C7FFFh) are written to the corresponding RAM address and can be read from or written to cache memory.
<i>Disabled</i>	The video ROM is not copied to RAM. The contents of the video ROM cannot be read from or written to cache memory.

**C800,16K/  
CC00,16K/  
D000,16K/  
D400,16K/  
D800,16K/  
DC00,16K  
Shadow**

These options enable shadowing of the contents of the ROM area in the option title. The choices:

Setting	Description
<i>Enabled</i>	The contents of the ROM area are written to the corresponding address in RAM for faster execution.
<i>Cached</i>	The contents of the ROM area are written to the corresponding RAM address and can be read from or written to cache memory.
<i>Disabled</i> (Default)	The ROM is not copied to RAM. The contents of the video ROM cannot be read from or written to cache memory.

**Memory Scrubbing**

Leave on the default setting for the best compatibility. The choices: *Enabled* , *Disabled(Default)*

**Memory Timing Control**

This option allows a use to set if let BIOS to program memory timing from SPD data.  
Note: Please refer to the documentation of your SDRAM module before you set this option to "Manual". Otherwise, it may cause your system is not able to bootup or is not stable.  
The choices: *Auto (Default)*, *Manual*

**Act to Deact**

When set the option "Memory Timing Control" to "Manual", this option will be available.  
Leave on the default setting for the best compatibility. The choices :*5 CLKs* , *6 CLKs (Default)*.

---

**Act to  
Read/Write**

When set the option “Memory Timing Control” to “Manual”, this option will be available.  
Leave on the default setting for the best compatibility.  
The choices :2 CLKs , 3 CLKs (**Default**).

---

**RAS  
Precharge  
Time**

When set the option “Memory Timing Control” to “Manual”, this option will be available.  
This option specifies the length of the RAS pre-charge part of the DRAM system memory access cycle when Synchronous DRAM system memory is installed in this computer.  
The choices :2 CLKs , 3 CLKs (**Default**).

---

**RAS Cycle  
Time**

When set the option “Memory Timing Control” to “Manual”, this option will be available.  
The option controls the number of SDRAM clocks used per access cycle.  
The choices:10CLKs , 9CLKs, 8 CLKs (**Default**), 7CLKs

---

**Write to Deact**

When set the option “Memory Timing Control” to “Manual”, this option will be available.  
Leave on the default setting for the best compatibility.  
The chociess :2 CLKs , 3 CLKs (**Default**).

---

**SDRAM CAS  
Latency**

When set the option “Memory Timing Control” to “Manual”, this option will be available.  
This option controls the latency period for CAS signal.  
**Note: Please refer to the documentation of your SDRAM module before you set this option. Otherwise, it may cause your system is not able to bootup or is not stable.**  
The chociess :2 CLKs , 3 CLKs (**Default**).

---

**ISA IO Cycle Delay**

Leave on the default setting for the best compatibility.  
The choices : *Full Delay*, *1.5 BCLK* (**Default**), *2.5 BCLK*, *3.5 BCLK*

---

**MP1.4 Support**

This option allows a user enabling the MP(Multi Processor )system support 1.4 version.  
The choices: *Enabled* (**Default**), *Disabled*

---

**CPU Clock of FSB Ratio**

This option will depend on what CPU a user uses.  
For the CPUs which the ratio is locked, the choice will only display “ Locked”. The ratio of CPU will be fixed a value  
For the CPUs which ratio is not locked, there are several choices :*2.0x (Safe)* ,*2.5x*, *3.0x*, *3.5x*, *4.0x*, *4.5x*, *5.0x*, *5.5x*, *6.0x*, *6.5x*, *7.0x*, *7.5x*, *8.0x*, *8.5x*, *9.0x*, *9.5x*, *10x*, *10.5x*, *11.0x*, *11.5x* and *12.0x*.

---

**Onboard LAN1 /LAN2**

This option allows a user to set if enabled onboard LAN1/ LAN2 function.  
The choices: *Enabled* (**Default**), *Disabled*

Section 5

# PCI PnP

This section describes configuring the PCI bus system. PCI, or **Personal Computer Interconnect**, is a system which allows I/O devices to operate at speeds nearing the speed the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

BIOS SETUP UTILITY							
Main	Advanced	Chipset	PCIPnP	Power	Boot	Security	Exit
Plug & Play O/S			[No]				
Reset Config Data			[No]				
PCI Latency Timer			[64]				
Allocate IRQ to PCI VGA			[Yes]				
Palette Snooping			[Disabled]				
PCI IDE BusMaster			[Disabled]				
USB Function			[Enabled]				
Legacy USB Support			[Auto]				
						- @	Select Screen
						- -	Select Item
						+-	Change Field
						Tab	Select Field
						F1	General Help
						F10	Save and Exit
						Esc	Exit

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BIOS Setup

## Plug & Play O/S

Set this option to "Yes" to inform AMIBIOS that the operating system can handle Plug and Play (PnP) devices.

The choices: No (**Default**), Yes

---

**Reset Config  
Data**

No: does not force the PnP data to be cleared during boot up the system.  
Yes: Clear PCI/PnP configuration data stored in flash on next system boot up  
The choices: *No (Default), Yes*

---

**PCI Latency  
Timer**

This option specifies the latency timings (in PCI clocks) for PCI devices installed  
Leave on default setting for the best compatibility.  
The choices: *32 (Default)/64/96/128/160/192/224/248*

---

**Allocate IRQ  
to PCI VGA**

Set this option to “Yes” to allocate an IRQ to the VGA device in the PCI bus.  
The choices: *Yes (Default), No*

---

**Palette  
Snooping**

When this option is set to “Enabled”, multiple VGA devices operating on different buses can handle data from the CPU on each set of palette registers on every video device.  
Disabled-Data read and written by the CPU is only directed to PCI VGA device’s palette registers.  
Enabled- Data read and written by the CPU is directed to the both the PCI VGA device’s palette registers and ISA VGA device palette registers, permitting the palette registers of both devices to be identical.  
The choices: *Enabled, Disabled ( Default)*

---

**PCI IDE Bus  
Master**

Set this option to “ Enabled” to specify that the IDE controller on the PCI bus has bus mastering capability.  
The choices: *Enabled, Disabled ( Default)*

---

---

### **USB Function**

Set this option “*Enabled*” to enable USB (Universal Serial Bus) support.

The choices: *Enabled, Disabled ( Default)*

---

### **Legacy USB Support**

This item allows a user enabling USB Keyboard /Mouse under DOS mode and some OS that does not support USB devices.

The choices: *Disabled (Default), Keyboard*

Section 6

# Power

The Power Management Setup allows you to reduce system power consumption through different saving power methods for various devices

BIOS Setup

BIOS SETUP UTILITY							
Main	Advanced	Chipset	PCIPnP	Power	Boot	Security	Exit
ACPI Aware O/S				[Yes]			
Power Management				[Enabled]			
Power Button Mode				[On/Off]			
Sleep Button Enable				[Suspend]			
Green PC Monitor Power State				[StandBy]			
Video Power Down				[Suspend]			
Hard Disk Power Down mode				[Disabled]			
Inactivity Timer				[Off]			
Suspend Time Out (Minutes)				[Off]			
IRQ1				[Monitor]			
IRQ3				[Ignore]			
IRQ4				[Ignore]			
IRQ5				[Ignore]			
IRQ6				[Ignore]			
IRQ7				[Ignore]			
IRQ9				[Ignore]			
IRQ10				[Ignore]			
IRQ11				[Ignore]			- [F6] Select Screen
IRQ12				[Monitor]			- [F7] Select Item
IRQ14				[Monitor]			+ [F8] Change Field
IRQ15				[Ignore]			Tab Select Field
							F1 General Help
							F10 Save and Exit
							Esc Exit

BIOS SETUP UTILITY							
Main	Advanced	Chipset	PCI/PnP	Power	Boot	Security	Exit
USB Controller Resume			[Disabled]				
PME Resume			[Disabled]				
RI Resume			[Disabled]				
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---

### ACPI Aware O/S

This field allows you to set if permit the operating system that has built-in the Advanced Configuration and Power Management (ACPI) feature to detect the ACPI function in the system .  
The choice: Yes(**Default**), No

---

### Power Management

Set this option to *Enabled* to enable the chipset power management and APM (Advanced Power Management) features.  
The choices: *Enabled*), *Disabled (Default)*

---

### Power Button Mode

This option specifies the function of Power Button in ATX switch. *ON/Off* set the button to be used as a normal system power-off button when pressed for less than 4 seconds. *Suspend* allows the button to have a dual function which pressing less than 4 seconds will place the system in sleep mode. Regardless of the setting, holding the button for more than 4 seconds will power off the system.  
The choices: *On/Off (Default)*, *Suspend*

---

### Sleep Button Mode

Leave on the default for best compatibility.  
The choices: *Suspend*, *Disabled (Default)*



---

**Green PC  
Monitor  
Power State**

When the selection "Power Management " is set to "Enabled", this option will be available.  
This option specifies the power state that the green PC-compliant video monitor enters when BIOS places it in a power saving state after the specified period of display inactivity has expired.  
The choices: *Standby (Default), Suspend, Off*

---

**Video Power  
Down**

When the selection "Power Management " is set to "Enabled", this option will be available.  
This option specifies the power state that the video subsystem enters when BIOS places it in a power saving state after the specified period of display inactivity has expired.  
The choices: *Standby, Suspend (Default), Disabled Sleep*

---

**Hard Disk  
Power Down  
Mode**

When the selection "Power Management " is set to "Enabled", this option will be available.  
This option specifies the power conserving state that the hard disk drive enters after the specified period of hard drive inactivity has expired.  
The choices: *Disabled, Standby (Default), Suspend.*

---

**Inactivity  
Time**

Leave on the default for best compatibility.  
The choices: *On, Off (Default)*

---

**Suspend  
Time Out  
(Minute)**

When only the selection "Power Management /APM" is set to "Enabled", this option will be available.

This option specifies the length of a period of system inactivity while in Standby State. When this length of time expires, the computer enters Suspend Power State.

The choices: Off (**Default**), 1 min, 2 min, 4 min, 8 min, 10 min, 20 min, 30 min, 40 min, 50 min, 60 min

---

**IRQ  
1/3/4/5/6/7/9/  
10/11/12/14/15**

This option allows a user to set if let BIOS detect the IRQ events. When the BIOS detects an IRQ trigger event being activated, the system will wake up and resumes its activities.

The choices: Ignore(**Default**), Monitor

---

**USB  
Controller  
Resume**

When in the Advanced Power Management (APM) mode, this option allows a user to wake up the system from a USB device.

The choices: Enabled), Disabled (**Default**)

---

**PME Resume**

When in the Advanced Power Management (APM) mode, this option allows a user to wake up the system from a PME device.

The choices: Enabled), Disabled (**Default**)

---

**R1 Resume**

When in the Advanced Power Management (APM) mode, this option allows a user to wake up the system from a R1 device.

The choices: Enabled), Disabled (**Default**)

---

## Section 7

---

# Boot

The “Boot” Menu allows a user to select among the five possible types of boot devices listed using the up and down arrow key. By using the <+> or <Space> key, you can promote devices and by using the <-> key, you can demote devices. Promotion or demotion of devices alerts the priority that the system uses to search for boot device on system power on. From this menu, the information of hard disk, removable device and ATAPI CDROM device can also be viewed.

BIOS  
Setup

BIOS SETUP UTILITY	
Main	Advanced
Chipset	PCIPnP
Power	<b>Boot</b>
Security	Exit

>Boot Device Priority	
>Hard Disk Drives	
> Removable Devices	

- @	Select Screen
- -	Select Item
+ -	Change Field
Tab	Select Field
F1	General Help
F10	Save and Exit
Esc	Exit

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## 7.1: Boot Device Priority

BIOS SETUP UTILITY		
Boot		
1 <sup>st</sup> Boot Device	[Removable Device]	Specifies the boot sequence from available devices
2 <sup>nd</sup> Boot Device	[Hard Drive]	
3 <sup>rd</sup> Boot Device	[SYM53C8XX Boot Support]	
		--  Select Screen -- Select Item +- Change Field Tab Select Field F1 General Help F10 Save and Exit Esc Exit
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BIOS Setup

### 1<sup>st</sup> / 2<sup>nd</sup> / 3<sup>rd</sup> Boot Device

This six fields determine which type of device the system attempt to boot from after AMIBIOS POST complete. If the first device is not a bootable device, system will seek for next one.

The choices for 1<sup>st</sup> Boot device: *Removable Dev. (Default), Hard Drive, ATAPI CD-ROM, SYM53C8xx/ Intel UNDI PXE/Intel UNDI PXE*

The choices for 2<sup>nd</sup> Boot device: *Removable Dev. Hard Drive, ATAPI CD-ROM (Default), SYM53C8xx/ Intel UNDI PXE/Intel UNDI PXE*

The choices for 3<sup>rd</sup> Boot device: *Removable Dev. Hard Drive (Default) ,ATAPI CD-ROM, SYM53C8xx/ Intel UNDI PXE/Intel UNDI PXE*

The choices for 4<sup>th</sup> Boot device: *Removable Dev. Hard Drive ,ATAPI CD-ROM, SYM53C8xx (Default) / Intel UNDI PXE/Intel UNDI PXE*

The choices for 5<sup>th</sup> Boot device: *Removable Dev. Hard Drive*, *ATAPI CD-ROM*, *SYM53C8xx / Intel UNDI PXE (Default)* *Intel UNDI PXE*

The choices for 5<sup>th</sup> Boot device: *Removable Dev. Hard Drive*, *ATAPI CD-ROM*, *SYM53C8xx / Intel UNDI PXE Intel UNDI PXE (Default)*

## 7.2.Hard Drive

BIOS SETUP UTILITY	
Boot	
1 <sup>st</sup> Hard Drive	[IDE PRIMARY MASTER-QUANTUM FI]
	-- Select Screen -- Select Item +- Change Field Tab Select Field F1 General Help F10 Save and Exit Esc Exit
V02.03 ( C ) Copyright 1985-2000, American Megatrends Inc.	

BIOS Setup

**1<sup>st</sup> Hard Drives** This field only displays the information of 1<sup>st</sup> Hard Drive

## 7.3.Removable Device

BIOS SETUP UTILITY	
Boot	
1 <sup>st</sup> Removable Dev	[1st Floppy]
	-- Select Screen -- Select Item +- Change Field Tab Select Field F1 General Help F10 Save and Exit Esc Exit
V02.03 ( C ) Copyright 1985-2000, American Megatrends Inc.	

---

**1<sup>st</sup> Removable** This field only displays the information of 1<sup>st</sup> Removable Device.

## 7.4. ATAPI CDROM Drives

BIOS SETUP UTILITY	
<b>Boot</b>	
1 <sup>st</sup> ATAPI CDROM	[IDE PRIMARY SLAVE-IDE/ATAPI C]
	--  Select Screen - - Select Item +- Change Field Tab Select Field F1 General Help F10 Save and Exit Esc Exit
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---

**1<sup>st</sup> ATAPI CDROM** This field only displays the information of 1<sup>st</sup> ATAPI CDROM

Section 8

# Security

In this Section, a user can set either supervisor or user password, or both for different level of password securities. In this section, a user also can set the virus protection for boot sector.

BIOS Setup

BIOS SETUP UTILITY			
Main	Advanced	Chipset	PCIPnP Power Boot Security Exit
Supervisor Password			[Installed]
User Password			[Installed]
> Change Supervisor Password			
User Access Level			[Full]
>Change User Password			
Unattended Start			[Disabled]
Password Check			[Setup]
>Clear User Password			
Boot Sector Virus Protection			[Disabled]

- [Enter]	Select Screen
- [Space]	Select Item
+ [Enter]	Change Field
Tab	Select Field
F1	General Help
F10	Save and Exit
Esc	Exit

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## Change Supervisor Password

You can enter and change the options of the setup menus.”

Type the password, up to six characters in length, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password or press <Enter> key to disable this option.

---

---

---

### **User Access Level**

When Supervisor Password is installed, this option will be available.

This option allows a user to set the user access level. "Limited" allows only limited field to be changed such as Date and Time; " No access" prevents User Access to the Setup Utility; "View only" allows accessing to the Setup Utility but the field can not be changed; " Full" give a user full access right in the BIOS Setup.

The choices : *No Access, View Only, Limited, Full*  
**Default**

---

### **Change User Password**

You can only enter but do not have the right to change the options of the setup menus. When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

Type the password, up to six characters in length, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

---

### Clear Password

To disable a password, just press <Enter> when you are prompted. A message will confirm the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

When a user password has been enabled, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer.

---

### Unattended Start

“Enabled” allows the host system to complete the boot process without a password. The keyboard will remain locked until a password is entered. A password is required to boot from a diskette.

The choices: *Disabled (Default), Enabled*

---

### Password Check

“ Setup” will check password while invoking setup; “Always” will check the password while invoking setup as well as on each boot

The choices: *Setup (Default), Always*

---

### Boot Section Virus Protection

This item allows a user to enable/disable the function of the virus protection. Any action attempt to modify the data of boot sector during POST will be forbidden if this function is enabled.

The choices: *Disabled (Default), Enabled*

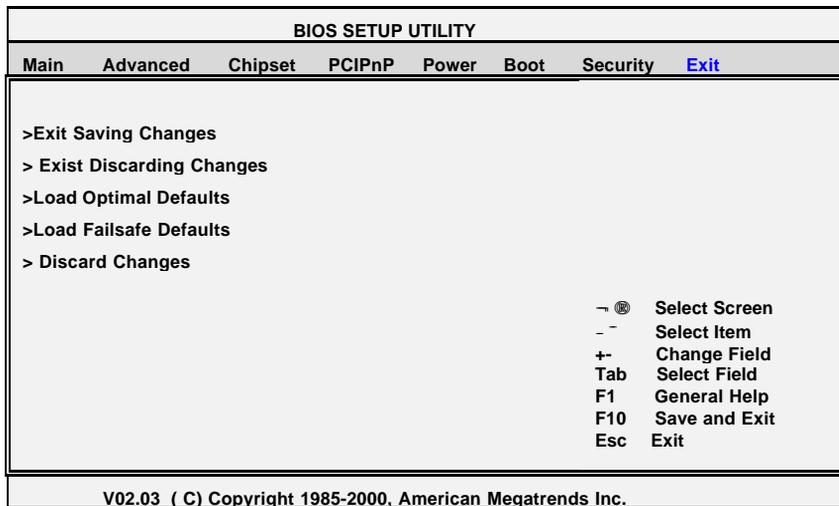
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## Section 9

---

# Exit

Once you have changed all of set values in the BIOS setup, you should save your changes and exit BIOS Setup program . Select "Exit" from the menu bar to display the following sub-menu



---

### Exit saving Change

Pressing <Enter> on this item asks for confirmation:

Pressing "Y" to stores the all present setting values a user made in this time into CMOS. Therefore next time you boot your computer up, the BIOS will re-configure your system according data in CMOS.

---

**Exit  
Discarding  
Change**

This allows you exiting Setup without changing any previous setting values in CMOS. The previous selections remain in effect. This will exit the Setup utility and restarts your computer when click this selection.

Pressing <Enter> on this item asks for confirmation:

---

**Load  
Optimal  
Defaults**

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Load Optimized Defaults (Y/N)? **N**

Pressing 'Y' loads the default values that are factory settings for optimal performance system operations.

---

**Load  
Failsafe  
Defaults**

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:  
Load Fail-Safe Defaults (Y/N)? **N**

Pressing 'Y' loads the BIOS default values for the most stable, minimum-performance system operations

---

**Discarding  
Change**

This allows you not changing any previous setting values in CMOS. The previous selections remain in effect.  
Pressing <Enter> on this item asks for confirmation:

 **NOTE**

For fast setting up a new system at the first time, we strongly recommend to load system optimal defaults first.

---

## Chapter 3

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# BIOS Flash Upgrade Utility

All versions of the SDRCB motherboard use Flash EPROM to store the system BIOS. The advantage of Flash EPROM is the EPROM chip does not have to be replaced to update the BIOS. The end user can actually reprogram the BIOS, using a ROM file supplied by RIOWORKS.

This chapter contains the procedures for programming Flash ROM:

A)Using the AMIFlash utility contained in the Setup CD provided by RIOWORKS

### A. Update your present BIOS version to a newer one with amiflash program

1. Turn on your computer and create a bootable floppy disk by typing from the DOS prompt without creating "AUTOEXEC.BAT" and "CONFIG.SYS" files

**C:\FORMAT A:/S**

2. Download the flash utility (amiflash.exe) and updated BIOS file from the RIOWORKS Website (<http://www.rioworks.com/support/download/download.htm>).
3. Boot the system by inserting the bootable floppy disk you've created in Floppy Drive A and run "amiflash.exe"

**A:\amiflash /F ROM file name.rom / O B**

4. The screen will show

---

---

AMIFLASH Version 7.1xE-Flash Programming Utility Copyright © 1992-1998 American Megatrends Inc.
Enter BIOS Filename: sdrcbxxx.rom
SST 28SF040 Flash ROM present.
Flash programming is going to start according to the selected programming options as displayed above. System will not be usable until the programming is successfully complete. In case of any error, the existing Flash may need to be replaced by a new programmed Flash to make the system usable. System must NOT be turned off during the programming operation.
<b>Press "Y" to Continue. "N" to Reboot</b>

5. If you press "Y". BIOS will automatically write new code to ROM. Press "N" if you do not want to continue programming the new BIOS. New BIOS will then be programmed. When it has finished programming, the following message will appear as below: when you press any key, system will automatically reboot.

Press Any Key to Reboot.

6. Hold down <Delete> to enter BIOS setup. You must select "Auto Configuration with Fail Safe Setting" to effect the new BIOS, after which you may set the other items from other setup

---

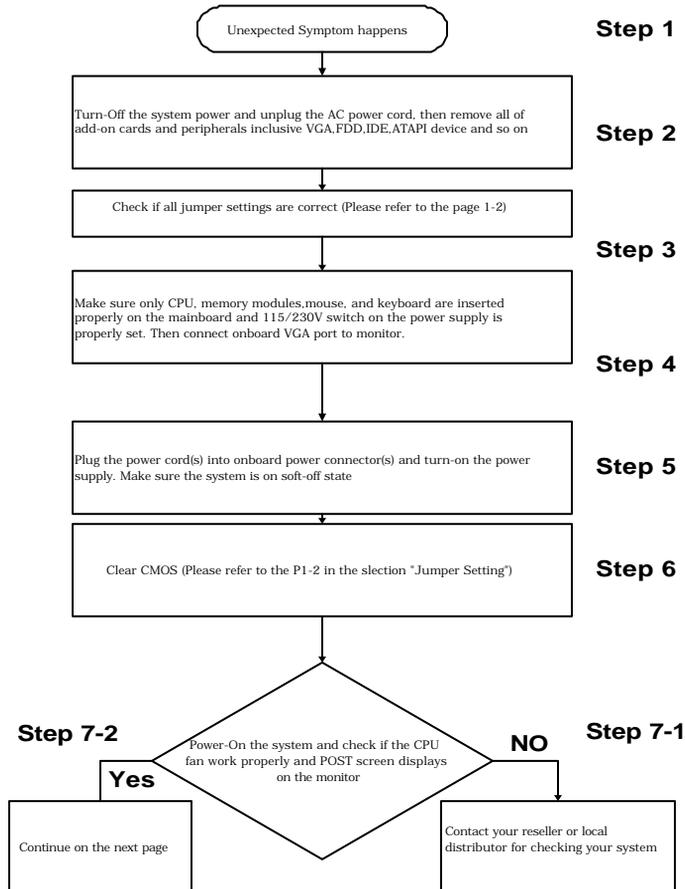
## Appendix A

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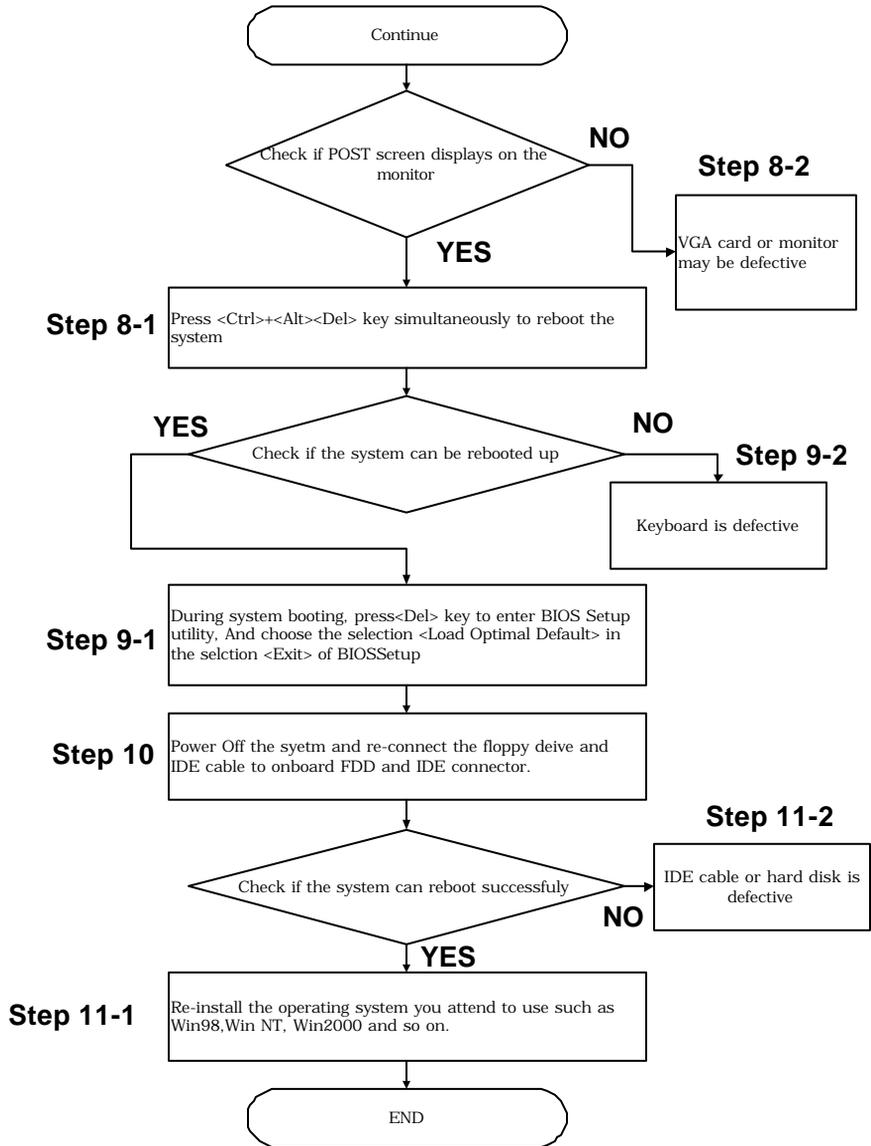
# Troubleshooting

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

### Troubleshooting Procedure



Troubleshooting





## WARNING

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

### 2.Symptom checking List

Symptom	Check point
No Power (FAN is not rotating)	<ol style="list-style-type: none"><li>1. Make sure no short circuit exist between the motherboard and chassis</li><li>2. Check if all jumpers are set to the default position.</li><li>3. Check if the 115V/230V switch on the power supply is properly set.</li><li>4. Check the CPU is inserted properly into CPU socket.</li><li>5. Check the power cord of the CPU fan is plugged into the correct position.</li><li>6. Turn the power switch on and off to test the system</li><li>7. Check the power of the battery on the M/B. In general, the battery voltage is around 3VDC.</li></ol>
Can power on the system (FAN is rotating), but no screen display.	<ol style="list-style-type: none"><li>1. Remove all the add-on card exclusive CPU, and memory modules.</li><li>2. Check if the memory is Registered ECC DIMM. Please check your reseller for qualified memory available vendor list (AVL).</li><li>3. Check if all jumpers are set to the default position.</li><li>4. Clear CMOS by using CLRTC jumper. Please refer to the page 1-2 in this manual.</li><li>5. Check if the connection is connected properly between onboard VGA port and monitor.</li></ol>

	<ol style="list-style-type: none"> <li>6. Check if using 133FSB CPU and PC100 Registered DIMM in the SDRCB. If yes, Chang CPU to 100FSB or memory to PC133.</li> <li>7. Use speaker to determine the symptom.</li> </ol>
Memory Error	<ol style="list-style-type: none"> <li>1. Check if the memory DIMM module is inserted into DIMM socket properly.</li> <li>2. Check if different speed memory modules are mixed and used in the SDRCB. Verify the BIOS setup is configuration for the fastest speed of RAM used. RIOWORKS recommend always use the same speed RAM in the system.</li> <li>3. Make sure your memory module(s) is compliant with PC100 or PC133 Spec. Unbuffered and non-ECC RAM is not supported in the SDRCB.</li> </ol>

## Appendix B

# Symptom Report Form

<b>M/B</b>	<b>SDRCB</b>	<b>Serial Number</b>		<b>BIOS version</b>	
<b>CPU 1</b>					
<b>CPU 2</b>					
<b>DIMM 0</b>					
	Size	MB	Brand		Component Model
<b>DIMM 1</b>					
	Size	MB	Brand		Component Model
<b>DIMM 2</b>					
	Size	MB	Brand		Component Model
<b>DIMM 3</b>					
	Size	MB	Brand		Component Model
<b>FDD</b>					
<b>PCI64-1</b>					
<b>PCI64-2</b>					
<b>PCI64-3</b>					
<b>PCI 1</b>					
<b>PCI 2</b>					
<b>PCI 3</b>					
<b>Onboard IDE 0</b>	Master				
	Slave				

Troubleshooting

<b>Onboard SCSI CH 0</b>				
<b>Onboard SCSI CH 1</b>				
<b>Power Supply</b>		Watt	Model Number	
<b>Other Devices</b>				
<b>Operating system</b>				
<b><u>Symptom Description:</u></b>				
<b>Name:</b>				
<b>Contact address:</b>	email			