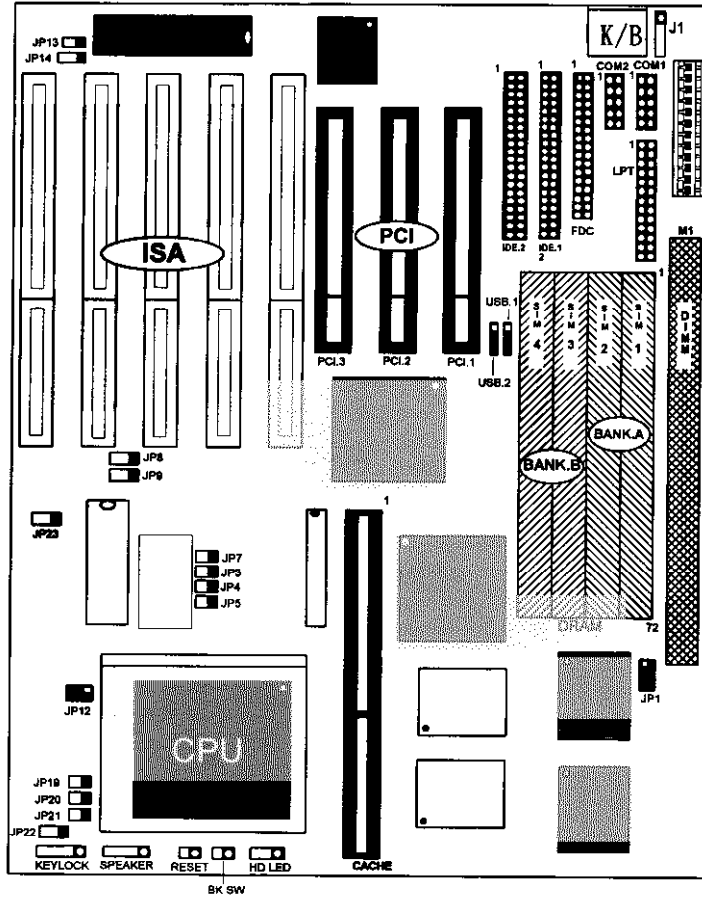


1.4 R533 Mainboard Layout



R-533 CPU Jumper Setting Quick Reference

CPU type		CPU Power Voltage					System Clock			CPU Speed		Refresh Time
		I/O	Core	JP12	JP22	JP23	MHz	JP3, JP4, JP5	Ratio	JP18, JP19	JP21	
Intel	P54C-75	3.3					50		3/2			
	P54C-90	3.3					60		3/2			
		3.45										
		3.5										
	P54C-120	3.3							2/1			
	P54C-150	3.5							5/2			
	P54C-180								3/1			
	P54C-100	3.3							3/2			
	P54C-133	3.45							2/1			
	P54C-166	3.5					66		5/2			
	P54C-200								3/1			
	P55C(MMX) -166	3.4	2.8				66		5/2			
P55C(MMX) -200								3/1				
Cynix 6x86	6x86-P120 @100MHz	3.5				50		2/1				
	6x86-P133 @110MHz					55						
	6x86-P150 @120MHz					60						
	6x86-P166 @133MHz					66						
AMD 6x86	P75	3.45				50		3/2				
	P90					60						
	P100					66						
AMD K6	PR166	3.4	2.9			66		5/2				
	PR200							3/1				
	PR233							7/2				

Table of Contents

Chapter 1 INTRODUCTION

1.1 Preface	1-1
1.2 Key Features	1-1
1.3 Static Electricity Precautions	1-2
1.4 Mainboard Layout	1-3

Chapter 2 HARDWARE INSTALLATION

2.1 Jumper Setting Summary	2-1
2.1.1 CPU Type, Speed & Voltage Selector	2-3
2.1.2 Installing a CPU in the ZIF Socket	2-5
2.1.3 CMOS Clear	2-5
2.1.4 PS/2 Mouse Selector	2-6
2.1.5 Flash EPROM Selector	2-6
2.1.6 Monitor Type Selector	2-7
2.1.7 Cache Memory Configuration	2-8
2.1.8 Upgrading System Memory	2-9
2.2 Connectors	2-12
2.2.1 I/O Ports	2-13
2.2.2 External Connections	2-14

Chapter 3 BIOS SETUP

3.1 Standard CMOS Setup	3-2
3.2 BIOS Feature Setup	3-3
3.3 Chipset Features Setup	3-6
3.4 Power Management Setup	3-8
3.5 PNP/PCI Configuration Setup	3-10
3.6 Load Setup Default	3-11
3.7 Integrated Peripherals	3-12
3.8 Supervisor Password	3-14
3.9 User Password	3-15
3.10 IDE HDD Auto Detection	3-16

1. INTRODUCTION

1.1. Preface

Welcome to use the R533 Pentium system mainboard. This manual explains how to use this mainboard and install upgrades. It has overview of the design and features of the board and provides useful information if you want to change the configuration of the board, or a system it is installed in.

1.2. Key Features

The R533 Pentium PCI system mainboard is a high-performance system board that support Pentium P54CX and P55CX family CPUs. There has many performance and system features integrated onto the mainboard, including the following :

- Supports Socket 7 for Intel Pentium CPU and other Compatible CPUs.
- Chipset : Intel 82437VX, 82438VX, 82371SB.
- Supports 256K Pipelined Burst SRAM in Second Level Cache , can be upgrade to 512K cache sizes.
- Supports 2 Banks of SIMMs (72-pin SIMM Sockets x 4) or One Bank of SDRAM DIMM Socket (168-pin DIMM x1)
 - Supports Memory size from 4MB to 128MB.
 - Supports Fast Page (FP) and Extended Data Output (EDO) Mode DRAM , and SDRAM modules.
- Five 16-bit ISA and Three 32-bit PCI Master Mode slots.
- Fast IDE Interface:
 - Supports PIO and Bus Master IDE controller.
 - Supports up to Mode 4 Timming.
 - Supports Four IDE drivers in two channels.
- Universal Serial Bus Controller.
 - Host / HUB Controller.
 - Two USB Ports.

【1】

- ❑ On-board I / O support :
 - 2 serial Ports ---16550 Fast UART compatible.
 - 1 Parallel Port --- with EPP and ECP capabilities.
 - 1 Floppy Disk connector --- support 2 FD drives.
- ❑ BIOS support :
 - " Plug and Play " (PnP) Function.
 - Power Management Feature.

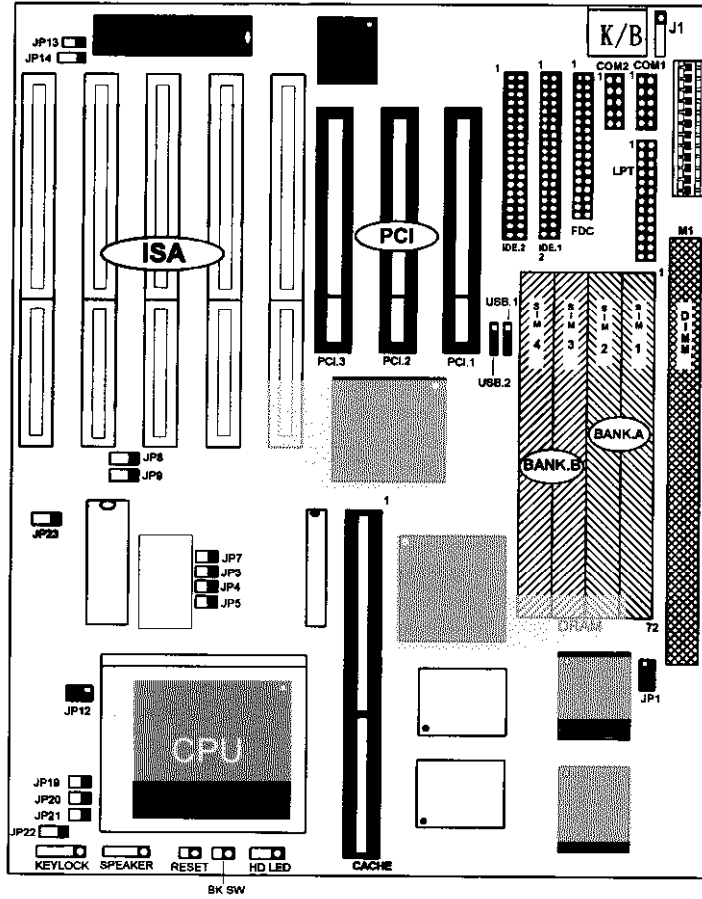
1.3. Static Electricity Precautions

Make sure you ground yourself before handling the mainboard or other system components. Electrostatic discharge can easily damage the components. Note that you must take special precaution when handling the mainboard in dry or air-conditioned environments.

Take these precautions to protect you equipment from electrostatic discharge :

- Do not remove the anti-static packaging until you are ready to install the system board and other system components.
- Ground yourself before removing any system component from its protective anti-static packaging. To ground yourself grasp the expansion slot covers or other unpainted portions of the computer chassis.
- Frequently ground yourself while working, or use a grounding strap.
- Handle the system board by the edges and avoid touching its components.

1.4 R533 Mainboard Layout



2. HARDWARE INSTALLATION

This chapter explains how to configure the system main board hardware. After you install the main board, you can set jumpers and make case connections. Refer to this chapter whenever you upgrade or reconfigure your system.

CAUTION : Turn off power to the main board, system chassis, and peripheral devices before performing any work on the main board or system.

2.1. Jumper Setting Summary

Regarding hardware settings on the board. They specify configuration options for various features. The settings are made using something called a "Jumper". A jumper is a set of two or more metal pins in a plastic base attached to the mainboard. A plastic jumper "cap" with a metal plate inside fits over two pins to create an electrical contact between them. The contact establishes a hardware setting.

Some jumpers have two pins, other have three or more. The jumpers are sometimes combined into sets called jumper "blocks", where all the jumpers in the block must be set together to establish a hardware setting. The next figures show how this works.

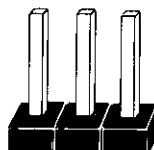
Jumpers and caps



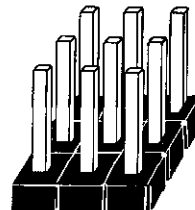
Jumper cap



2-Pin Jumper



3-Pin Jumper



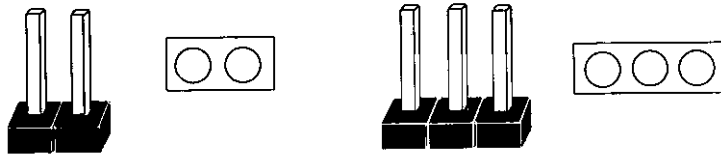
Jumper block

【2】

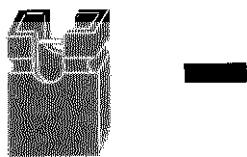
Most jumper settings are printed on the board in a stylized bird's-eye view, with which pins to connect for each setting marked by a bar connecting two pins. For example, if a jumper has three pins, connecting or "shorting", the first and second pins creates one setting and shorting the second and third pins creates another. The same type of diagrams are used in this manual. The jumpers are always shown from the same point of view as shown in the whole board diagram in this chapter.

Jumpers diagrams

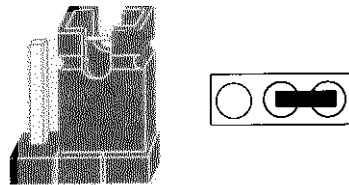
Jumpers are shown like this



Jumper caps like this



Jumper settings like this



2.1.1. CPU Type, Speed & Voltage Selector :

JP3, JP4, JP5 JP19, JP20, JP21 & JP12, JP22, JP23.

A. CPU Voltage Selector:

(a) For Single Power CPU: Intel P54C, Cyrix 6x86, IBM 6x86, AMD 5k86.

Step 1: JP12: 1-2 Close, 3-4 Close, 5-6 Close.

Step 2:

VOLT 1.	JP22
3.3 v	1-2:Close. 3-4:Close.
3.45 v	1-2:Close. 3-4:Open.
3.5 v	1-2:Open. 3-4:Open.

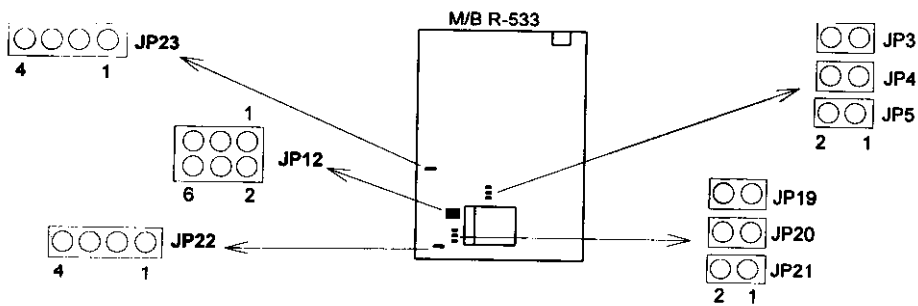
(b) For Dual Power CPU: Intel P55C (MMX), Cyrix 6x86L, IBM 6x86L, AMD K6.

Step 1: JP12: 1-2 Open, 3-4 Open, 5-6 Open.

Step 2:

VOLT 1.	JP22
3.3 v	1-2:Close. 3-4:Close.
3.45 v	1-2:Close. 3-4:Open.
3.5 v	1-2:Open. 3-4:Open.

VOLT 2.	JP23
2.8 v	1-2:Close. 3-4:Close.
2.9 v	1-2:Close. 3-4:Open.
3.2 v	1-2:Open. 3-4:Open.



【2】

B. CPU Speed Selector:

(a) Intel Pentium CPU.

CPU Type	System Clock				Frequency Ratio			Refresh Time
	MHz	JP3	JP4	JP5	/	JP19	JP20	JP21
75MHz	50	Open	Open	Open	3/2	Open	Open	Open
90MHz	60	Close	Open	Open		Open	Open	Close
100MHz	66	Open	Close	Open		Open	Open	Open
120MHz	60	Close	Open	Open	2/1	Close	Open	Close
133MHz	66	Open	Close	Open		Close	Open	Open
150MHz	60	Close	Open	Open	5/2	Close	Close	Close
166MHz	66	Open	Close	Open		Close	Close	Open
180MHz	60	Close	Open	Open	3/1	Open	Close	Close
200MHz	66	Open	Close	Open		Open	Close	Open

(b) Cyrix 6x86/6x86L or IBM 6x86/6x86L CPU.

CPU Type	System Clock				Frequency Ratio			Refresh Time
	MHz	JP3	JP4	JP5	/	JP19	JP20	JP21
PR120 +	50	Open	Open	Open	2/1	Close	Open	Open
PR133 +	55	Open	Open	Close		Close	Open	Open
PR150 +	60	Close	Open	Open		Close	Open	Close
PR166 +	66	Open	Close	Open		Close	Open	Open

(c) AMD 5k86 CPU.

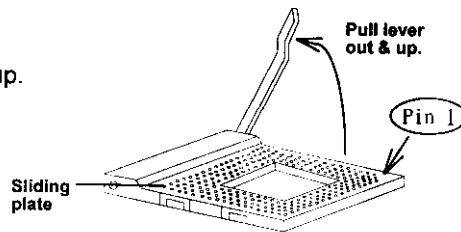
CPU Type	System Clock				Frequency Ratio			Refresh Time
	MHz	JP3	JP4	JP5	/	JP19	JP20	JP21
P75	50	Open	Open	Open	3/2	Open	Open	Open
P90	60	Close	Open	Open		Open	Open	Close
P100	66	Open	Close	Open		Open	Open	Open
P166	66	Open	Close	Open	5/2	Close	Close	Open

(d) AMD K6 CPU.

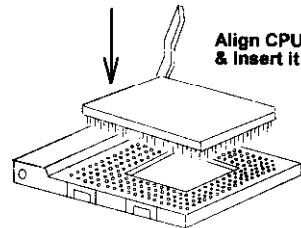
CPU Type	System Clock				Frequency Ratio			Refresh Time
	MHz	JP3	JP4	JP5	/	JP19	JP20	JP21
PR166	66	Open	Close	Open	5/2	Close	Close	Open
PR200	66	Open	Close	Open	3/1	Open	Close	Open
PR233	66	Open	Close	Open	3/2	Open	Open	Open

2.1.2. Installing a CPU in the ZIF Socket

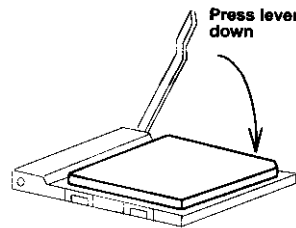
1. Make sure the ZIF socket level is up.
To raise the lever, pull it out to the side a little and raise it as far as it will go. Pin 1 is at the arm corner.



2. Align the CPU and socket pin 1 corners. The pins on the bottom should align with the inner 3 rings of holes in the socket, then place the CPU in the socket. It should insert easily. If it doesn't, pull the level up a little more.



3. Press the lever down. The plate will slide forward. You will feel some resistance as the pressure starts to secure the CPU in the socket. When the CPU is installed, the lever should snap into place at the side of the socket.

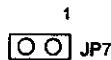


2.1.3. CMOS Clear Jumper : JP7.

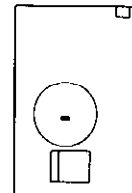
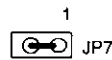
Clear the CMOS memory by momentarily shorting this Jumper; then Open the Jumper to retain new setting.

Function	JP7
Normal Operation (default)	Open
Clear CMOS data	Close

(a) Normal



(b) Clear CMOS



【2】 _____

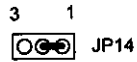
2.1.4. PS/2 Mouse Selector : JP14.

These Jumper controls the on-board PS/2 Mouse lead connector. When set to Enable, the port is active and uses IRQ12.

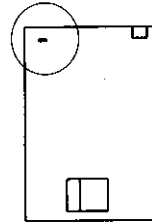
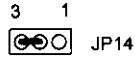
PS/2 Mouse	JP14
Enable	1-2
Disable	2-3

(a) Use PS/2 Mouse

(b) None PS/2 Mouse



(Default)



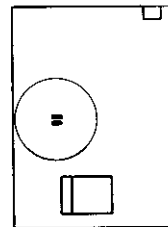
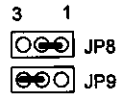
2.1.5. Flash Eprom Selector : JP8, JP9.

Program Mode	JP8	JP9
None Flash Mode	1-2	1-2
+5V Flash ROM	1-2	2-3
+12V Flash ROM	2-3	2-3

(a) None Flash

(b) +5V Flash

(c) +12V Flash



How to Update BIOS (Flash ROM)

1. Copy the Flash Utility to a bootable diskette.
AWDFLASH.EXE : for AWARD BIOS.
AMIFLASH.COM : for AMI BIOS.
2. Copy the new bios file to the diskette.
***.BIN : is AWARD BIOS.**
***.ROM : is AMI BIOS.**
3. Turn the power off and set BIOS Jumper to Flash Mode.

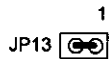
	JP8	JP9
+5V Flash ROM	1-2	2-3
+12V Flash ROM	2-3	2-3

4. Turn the system on and run the Flash utility.
5. Follow the prompt and input the file name.
6. Save the old BIOS and when prompt to program hit " Y ".
7. After the BIOS is Flash, turn off the system and clear the CMOS.
8. BIOS is Flashed.

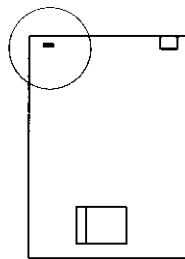
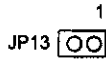
2.1.6. Monitor Type Selector: JP13

Monitor Type	JP13
CGA	Close
Mono/EGA	Open

(a) CGA



(b) Mono/EGA



【2】

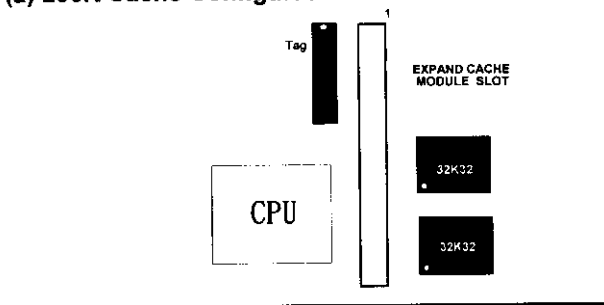
2.1.7. Cache Memory Configuration

The system board R533 support Pipelined Burst SRAM 256KB on board, and support one Cache Module expand Slot, or Pipelined Burst 512KB on board. When Burst SRAM 256KB on board, you can upgrade Cache size to 512KB by using P.B. SRAM 256K Module.

Cache size & SRAM Locations

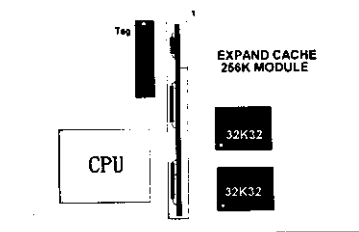
Cache Size	Tag RAM	On Board SRAM Chip	256K Cache Module
(a) 256KB	32K8 x 1	32K32 x 2 pcs	None
(b) 512KB	32K8 x 1	32K32 x 2 pcs	1 pcs
	32K8 x 1	64K32 x 2 pcs	None

(a) 256K Cache Configuration

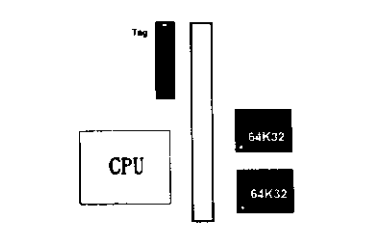


(b) 512K Cache Configuration

(1) On board 32K32.



(2) On board 64K32.



2.1.8. Upgrading System Memory

(a) DRAM Type :

The R533 mainboard can be used **(1)** Four -72pin SIMMs, or **(2)** Two 72pin SIMMs and One-168pin DRAM DIMM, or **(3)** One-168pin SDRAM DIMM. system memory can be upgraded from 4MB to 128MB, The DRAM type can be used Fast Page Mode (FP) and Extended Data Output Mode (EDO) at the each Banks. The same Bank must use the same type of DRAM.

You must use 2 SIMM sockets at a time (one Bank), that is. SIM 1 & SIM2 , or all four SIMM sockets at once .

Each pair of modules must be the same size and speed and can be either single or double-sided.

DRAM Type : Fast Page Mode(FP) or Extended Data Output(EDO).
DRAM Speed : 70ns or faster.
Parity : Either parity or non-parity.

Installing SIMMs

To install SIMMs as following instructions:

1. The modules will only insert in a socket in one orientation. An orientation cut-out will prevent you from inserting them the wrong way. See the figures at right.
2. Press the module edge connector into the socket at a moderate angle to the board. See the figures below.
3. Press the module forward onto the socket's vertical posts, so that the alignment pins at the top of each post go into the circular holes at each end of the module.
4. The module should click into place, as the retaining clips at each end of the socket snap behind the module to secure it.
5. Repeat this procedure for each module you install.

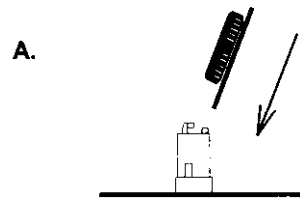
【2】

Using 72-pin SIMMs DRAM and 168-pin DIMMs DRAM Table:

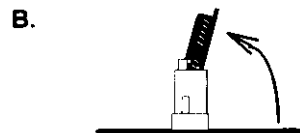
Total DRAM Size	BANK .B		BANK .A		DIMM
	SIM 4	SIM 3	SIM 1	SIM 2	M 1
8 MB	4 MB	4 MB	X	X	X
16 MB	4 MB	4 MB	4 MB	4 MB	X
24 MB	4 MB	4 MB	8 MB	8 MB	X
40 MB	4 MB	4 MB	16 MB	16 MB	X
72 MB	4 MB	4 MB	32 MB	32 MB	X
16 MB	8 MB	8 MB	X	X	X
24 MB	8 MB	8 MB	4 MB	4 MB	X
32 MB	8 MB	8 MB	8 MB	8 MB	X
48 MB	8 MB	8 MB	16 MB	16 MB	X
80 MB	8 MB	8 MB	32 MB	32 MB	X
32 MB	16 MB	16 MB	X	X	X
40 MB	16 MB	16 MB	4 MB	4 MB	X
48 MB	16 MB	16 MB	8 MB	8 MB	X
64 MB	16 MB	16 MB	16 MB	16 MB	X
96 MB	16 MB	16 MB	32 MB	32 MB	X
64 MB	32 MB	32 MB	X	X	X
72 MB	32 MB	32 MB	4 MB	4 MB	X
80 MB	32 MB	32 MB	8 MB	8 MB	X
96 MB	32 MB	32 MB	16 MB	16 MB	X
128 MB	32 MB	32 MB	32 MB	32 MB	X
16 MB	X	X	X	X	16 MB
24 MB	X	X	4 MB	4 MB	16 MB
32 MB	X	X	8 MB	8 MB	16 MB
48 MB	X	X	16 MB	16 MB	16 MB
80 MB	X	X	32 MB	32 MB	16 MB
32 MB	X	X	X	X	32 MB
40 MB	X	X	4 MB	4 MB	32 MB
48 MB	X	X	8 MB	8 MB	32 MB
64 MB	X	X	16 MB	16 MB	32 MB
96 MB	X	X	32 MB	32 MB	32 MB

※ **Note:** 1. The 168-pin DIMMs DRAM are +5v (voltage), please set
JP1: 1-3 Close, 2-4 Close.
 2. " X " = Empty.

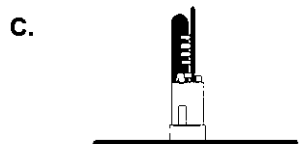
Installing a SIMM Module



Insert the SIMM into the socket at an angle.



Press it forward onto the positioning pins.



The retaining clips should fit over the edge and hold the SIMM in place.

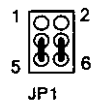
(b) SDRAM Type:

The R533 mainboard can use SIMM or DIMM type DRAM, or use 168-pin Unbuffer DIMMs SDRAM. The two types (DRAM or SDRAM) can not be used at the same time, SDRAM memory can be upgraded to 64MB or more (depend on the new SDRAM Size),

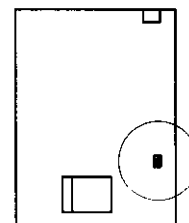
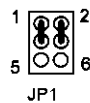
SDRAM Voltage Selector: JP1

SDRAM Type	JP1 Setting
+ 3.3V SDRAM	3-5, 4-6
+ 5V SDRAM	1-3, 2-4

(a) 3.3V SDRAM

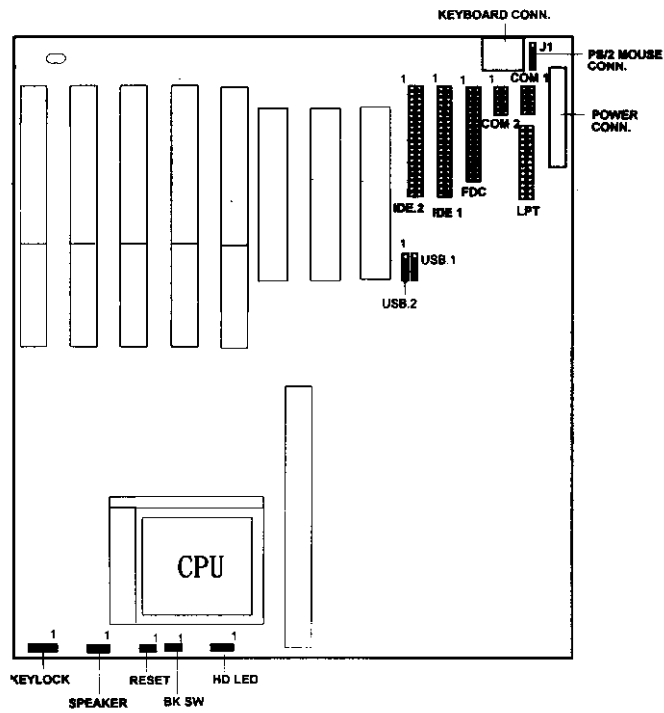


(b) 5V SDRAM



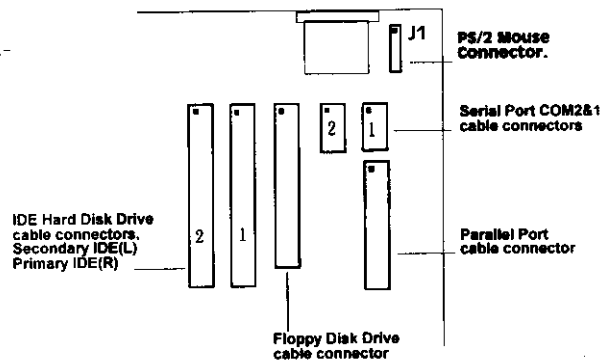
2.2. Connectors

The Connectors are made of the same component as the jumper switches. There are connectors for the switches and indicator lights from the system case. There are also connectors for the on-board I/O port and the leads from a system power supply.



2.2.1 I/O Ports .

Pin 1 is the upper left-hand pin on each port connector



When you connect a ribbon cable to any of these I/O connectors, you must orient the cable connector so that the Pin 1 edge of the cable is at the Pin 1 end of the on-board connector.

The pin 1 edge of the ribbon cable is colored to identify it.

Port & Controller Cables

The mainboard comes with the following cables:

- * 1 serial port and 1 parallel port ribbon cables attached to one mounting bracket.
- * 1 serial port ribbon cable with mounting bracket.
- * 1 IDE ribbon connector cables.
- * 1 floppy disk drive ribbon connector cable.
- * 1 PS/2 Mouse ribbon cable with mounting bracket.

[2]

Connector and Port Cables

(1) Floppy Drive ribbon cable



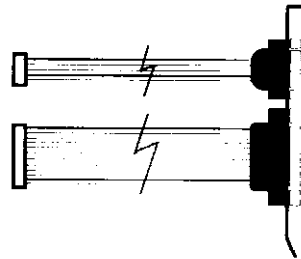
(2) Serial ribbon cable



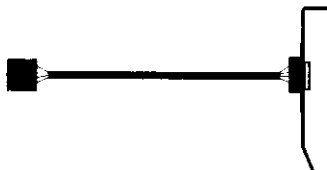
(3) IDE ribbon cable



(4) Serial & Parallel ribbon cable



(5) PS/2 Mouse ribbon cable



2.2.2 External Connections

There are several connectors on the system board for switches and indicator lights from the system case. The connectors are made of the same components as the jumper switches.

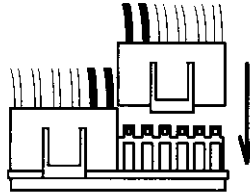
- | | |
|----------------|--|
| KEYLOCK | Connector for both a case-mounted lock and a Power-On LED. |
| SPEAKER | Connector for the lead from a speaker mounted inside the system case. |
| RESET | Connector for the lead from a Reset switch mounted on the system case. |

BK.SW Connector for the lead from a case-mounted Suspend switch.

HD LED Connector for IDE activity LED.

CN1: Power Supply Connector:

The CN1 is two six-pin male header connector. Plug the dual connectors from power directly onto the board connector and make sure the black leads are in the center.



USB1, USB2 Two USB ports connector.

USB ports connector pin assignment:

Port 1: Pin 1 : SBV0.	Port 2 : Pin 1 : SBV0.
2 : SBD0-.	2 : SBD0-.
3 : SBD0+.	3 : SBD0+.
4 : SBG0.	4 : SBG0.
5 : GND.	5 : GND.

3. BIOS Setup

The mainboard's BIOS setup program is the ROM PCI/ISA BIOS from Award Software Inc. Enter the Award BIOS program's Main Menu as follows:

1. Turn on or reboot the system. After a series of diagnostic checks, you are asked to press DEL to enter Setup.
2. Press the key to enter the Award BIOS program and the main screen appears:

```
ROM PCI/ISA BIOS
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.
```

STANDARD CMOS SETUP	INTEGATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP / PCI CONFIGURATION	IDE LOW LEVEL FORMAT
LOAD SETUP DEFAULTS	SAVE & EXIT SETUP
	EXIT WITHOUT SAVING
Esc: Quit : Select Item	
F10: Save & Exit Setup (Shift)F2: Change Color	
Time, Date, Hard Disk Type...	

3. Chosse an option and press <Enter>. Modify the system parameters to reflect the options installed in the system. (See the following sections.)
 4. Press <ESC> at anytime to return to the Main Menu.
 5. In the Main Menu, choose "SAVE AND EXIT SETUP" to save your changes and reboot the system. Choosing "EXIT WITHOUT SAVING" ignores your changes and exits the program.
- The Main Menu options of the Award BIOS are described in the sections that follow.

【3】

3.1 Standard CMOS Setup

Run the Standard CMOS Setup as follows.

1. Choose "STANDARD CMOS SETUP" from the Main Menu. A screen appears.

```
ROM PCI/ISA BIOS
CMOS SETUP UTILITY
AWARD SOFTWARE, INC
```

Date (mm:dd:yy):	Fri, Feb 1	1995						
Time (hh:mm:ss):	7:30:33							
HARD DISK	TYPE	SIZE	CYLS	MEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master :	Auto	0	0	0	0	0	0	----
Primary Slave :	Auto	0	0	0	0	0	0	----
Secondary Master:	Auto	0	0	0	0	0	0	----
Secondary Slave :	Auto	0	0	0	0	0	0	----
Drive A: 1.44M,	3.5in.							
Drive B: None								
					Base Memory:	640K		
					Extended Memory:	3328K		
					Other Memory:	128K		
					Total Memory:	4096K		
Video: EGA/VGA								
Halt On: All Errors								
ESC: Quit			:Select	Item		PU/PD/+/-	:Modify	
F11: Help		(Shift) F2	:Change	Color		F3: Toggle	Calendar	

2. Use arrow keys to move between items and select values. Modify selected fields using PgUp/PgDn/+/- keys. Some fields let you enter values directly.

Date (mm/dd/yy)	Type the current date.
Time (hh/mm/ss)	Type the current time.
Primary (Secondary) Master & Slave	Choose from the standard hard disk types 1 to 46. Type 47 is user definable. If a hard disk is not installed choose "Not installed". (default)
Drive A & B	Choose 360KB, 5 1/4" 1.2MB, 5 1/4" 720KB, 3 1/2" 1.4MB, 3 1/2" (Default), 2.88MB, 3 1/2" or None
Video	Choose Monochrome, Color 40 X 25, VGA/EGA (Default), Color 80 X 25

3. When you finish, press the <ESC> key to return to the Main Menu.

3.2 BIOS Features Setup

Run the BIOS Features Setup as follows.

1. Choose "BIOS FEATURES SETUP" from the Main Menu and a screen with a list of items appears. (The screen below shows the BIOS default settings.)

ROM PCI/ISA BIOS
BIOS FEATURES SETUP
AWARD SOFTWARE, INC.

CPU Internal Cache	: Enabled	Video Bios Shadow	: Enabled
External Cache	: Enabled	C8000-CBFFF Shadow	: Disabled
Quick Power on Self Test	: Enabled	CC000-CFFFF Shadow	: Disabled
Boot Sequence	: C, A	D0000-C7FFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	D4000-C7FFF Shadow	: Disabled
Boot Up Numlock Status	: On	D8000-CBFFF Shadow	: Disabled
Gate A20 Option	: Fast	DC000-CFFFF Shadow	: Disabled
Typematic Rate Setting	: Disabled		
Typematic Rate (Chars/Sec)	: 6		
Typematic Delay (Msec)	: 250		
Security Option	: Setup		
PCI/VGA Palette Snoop	: Disabled		
OS Select for DRAM >64MB	: Non-OS2		
		ESC: Quit	: Select Item
		F1: Help	PU/PD/+/- : Modify
		F5: Old Values (Shift)	F2: Color
		F6: Load BIOS Defaults	
		F7: Load Setup Defaults	

2. Use the arrow keys to move between items and to select values. Modify the selected fields using the PgUp/PgDn/+/- keys. <F> keys are explained below:

<F1>: "Help" gives options available for each item.

Shift<F2>: Change color.

<F5>: Get the old values. These values are the values with which the user started the current session.

<F6>: Load all options with the BIOS Setup default values.

<F7>: Load all options with the Power-On default values.

A short description of screen items follows:

CPU Internal Cache This option enables/disables the CPU's internal cache. (The Default setting is Enabled.)

External Cache This option enables/disables the external cache memory. (The Default setting is Enabled.)

【3】

Quick Power On Self Test	Enabled provides a Fast POST at boot-up.
Boot Sequence	The default setting attempts to first boot from drive C: and then from Floppy disk A: You can reverse this sequence with C,A --- C,CDROM,A --- CDROM,C,A --- A,C --- C,A
Swap Floppy Drive	Enabled changes the sequence of the A: and B: drives. (The Default setting is Disabled.)
Boot Up Num Lock Status	Choose On or Off. On puts numeric keypad in Num Lock mode at boot-up. Off puts this keypad in arrow key mode at boot-up.
Gate A20 Option	Choose Fast (default) or Normal. Fast allows RAM accesses above 1MB using the fast gate A20 line.
Typematic Rate Setting	Enable this option to adjust the keystroke repeat rate.
Typematic Rate (Chars/Sec)	Choose the rate a character keeps repeating.
Typematic Rate (Msec)	Choose how long after you press a key that a character begins repeating.
Security Option	Choose Setup or System. Use this feature to prevent unauthorized system boot-up or use of BIOS Setup. "System"-Each time the system is booted the password prompt appears. "Setup"- If a password is set, The password Prompt only appears if you attempt to enter the Setup program.
PCI/VGA Palette Snoop	Enable : The color of the monitor may be incorrect if uses with MPEG card. Enable this option to make the monitor normal. Disable: Default setting.

**OS Select for
DRAM >64MB**

OS2: Choosing this when you are using OS/2
operation system.

Non-OS/2: Choosing this when you are using no-OS/2
operation system.

**Video or Adapter
BIOS Shadow**

BIOS shadow copies BIOS code from slower ROM to
faster RAM. BIOS can then execute from RAM. 16K
segments can be shadowed from ROM to RAM. BIOS
is shadowed in a 16K segment if it is enable and it has
BIOS present.

3. After you have finished with the BIOS Features Setup program, Press the
<ESC> key and follow the screen instructions to save or disregard your
settings.

【3】

3.3 Chipset Features Setup

The Chipset Features Setup option changes the values of the Chipset registers. These registers control system options in the computer.

Note: Change these settings only if you are familiar with the Chipset.

Run the Chipset Features Setup as follows.

1. Choose "CHIPSET FEATURES SETUP" from the Main Menu and the following screen appears. (The screen below shows default settings.)

ROM PCI/ISA BIOS CHIPSET FEATURES SETUP AWARD SOFTWARE, INC	
Auto Configuration	: Enabled
DRAM Timing	: 70 ns
ISA Clock	: PCICLK/4
System BIOS Cacheable	: Disabled
Video BIOS Cacheable	: Disabled
Memory Hole At 15M-16M	: Disabled
Peer Concurrency	: Enable
ESC : Quit :Select Item	
F1 : Help PU/PD/+/-:Modify	
F5 : Old Values (Shift)F2:Color	
F6 : Load BIOS Defaults	
F7 : Load Setup Defaults	

2. Use the arrow keys to move between items and select values.
Modify selected fields using the PgUp/PgDn/+/- keys.

A short description of screen items follows:

Auto Configuration Enable this option (strongly recommended) and the system automatically sets all options on the left side of the screen (except cache update mode & BIOS cacheable).

DRAM Timing Choose the right speed to fit your DRAM's spec. 82430HX chipset supports 50, 60, and 70ns DRAM timing.

ISA Clock Use BIOS default setting or choose:
/4: for 60, 66MHz CPU Bus Frequency.
/3: for 50, 55MHz CPU Bus Frequency.

- System BIOS Cacheable** Disable : The ROM area F0000H-FFFFFFH is not cached.
 Enable : The ROM area F0000H-FFFFFFH is cachable if cache controller is enable.
- Video BIOS Cacheable** Disable : The video BIOS C0000H-C7FFFH is not cached.
 Enable : The video BIOS C0000H-C7FFFH is cachable if cache controller is enable.
- Memory Hole At 15M-16M** Choose Enabled or Disabled (default). Some interface cards will map their ROM address to this area. If this occurs, you should select Enabled, otherwise use Disabled.
- Peer Concurrency** Use the default setting.

3. After you have finished with the Chipset Features Setup, press the <ESC> key and follow the screen instructions to save or disregard your settings.

【3】

3.4 Power Management Setup

The Power Management Setup option sets the system's power saving function.

Run the Power Management Setup as follows.

1. Choose "POWER MANAGEMENT SETUP" from the Main Menu and a screen with a list of items appears.

```
ROM PCI/ISA BIOS
POWER MANAGEMENT SSETUP
AWARD SOFTWARE, INC
```

Power Management	:Disabled	** Power Down & Resume Events **
PM Control by APM	:Yes	IRQ 3 (COM 2) :ON
Video Off Method	:V/M SYNC+Blank	IRQ 4 (COM 1) :ON
		IRQ 5 (LPT 2) :ON
Doze Mode	:Disabled	IRQ 6 (Floppy Disk) :OFF
Standby Mode	:Disabled	IRQ 7 (LPT 1) :ON
Suspend Mode	:Disabled	IRQ 8 (RTC Alarm) :OFF
HDD Power Down	:Disable	IRQ 9 (IRQ2 Redir) :ON
		IRQ 10 (Reserved) :ON
		IRQ 11 (Reserved) :ON
** Wake Up Events In Doze & Standby **		IRQ 12 (PS/2 Mouse) :ON
IRQ3 (Wake-up Event)	: ON	IRQ 13 (Coprocessor) :ON
IRQ4 (Wake-up Event)	: ON	IRQ 14 (Hard disk) :ON
IRQ8 (Wake-up Event)	: ON	IRQ 15 (Reserved) :ON
IRQ12 (Wake-up Event)	: ON	
		ESC: Quit :Select Item
		F1 : Help PU/PD/+/- :Modify
		F5 : Old Values (Shift)F2 : Color
		F6 : Load BIOS Defaults
		F7 : Load Setup Defaults

2. Use the arrow keys to move between items and to select values. Modify the selected fields using the PgUp/PgDn/+/- keys.

A short description of selected screen items follows:

Power Management Options are as follows:

User Define Let's you define the HDD and system Power down times.

Disabled Disabled the green PC Features.

Min Saving Doze timer = 1 Hour
Standby timer = 1 Hour
Suspend timer = 1 Hour
HDD Power Down timer = 15 Min

Max Saving Doze timer = 1 Min
Standby timer = 1 Min
Suspend timer = 1 Min
HDD Power Down timer = 1 Min

- PM Control by APM** Choose Yes or No (default). APM stands for advanced Power Management. To use APM you must run "power.exe" under DOS V6.0 or later version.
- Video Off Method** Choose V/H Sync + Bland (default), Bland screen, or DPMS for the selected PM mode.
- Doze Mode** When the set time has elapsed, the BIOS sends a command to the system to enter doze mode. Time is adjustable from 1 Min to 1 Hour.
- Standby Mode** The default is Disabled. Time is adjustable from 1 Min to 1 Hour.
- Suspend Mode** The default is Disabled. Only an SL-Enhanced (or SMI) CPU can enter this mode. Time is adjustable from 1 Min to 1 Hour. Under Suspend mode, the CPU stops completely (no instructions are executed).
- HDD Power Down** When the set time has elapsed, the BIOS sends a command to the HDD to power down, which turns off the motor. Time is adjustable from 1 to 15 minutes. the default setting is Disabled. Some older model HDDs may not supports this advanced function.
- IRQx (Wake-Up Events)** The BIOS monitors these items for activity. If activity occurs from the Enabled item the system wakes up.
- Power Down Activities** The BIOS monitors these items for no activity. If no activity occurs from the Enabled item the system will enter power saving mode (Doze/Standby/Suspend/HDD Power Down mode)

3. After you have finished with the Power Management Setup, Press the <ESC> key to return to the Main Menu.

【3】

3.5 PNP/PCI Configuration Setup

This option sets the mainboard's PCI Slots. Run this option as follows:

1. Choose "PNP/CPI CONFIFURATION SETUP" from the Main Menu and the following screen appears. (The screen below shows default settings.)

```
ROM PCI/ISA BIOS
PNP/PCI CONFIGURATION
AWARD SOFTWARE, INC.
```

Resources Controlled By : Manual	PCI IRQ Activied By : Level
Reset Configuration Data: Disabled	PCI IDE Map To : PCI-Auto
	Primary IDE INT# : A
	Secondary IDE INT# : A
IRQ-3 assigned to : Legacy ISA*	
IRQ-4 assigned to : Legacy ISA*	
IRQ-5 assigned to : PCI/ISA PnP*	
IRQ-7 assigned to : Legacy ISA*	
IRQ-9 assigned to : PCI/ISA PnP*	
IRQ-10 assigned to : PCI/ISA PnP*	
IRQ-11 assigned to : PCI/ISA PnP*	
IRQ-12 assigned to : PCI/ISA PnP*	
IRQ-14 assigned to : Legacy ISA*	
IRQ-15 assigned to : Legacy ISA*	
DMA-0 assigned to : PCI/ISA PnP*	
DMA-1 assigned to : PCI/ISA PnP*	
DMA-3 assigned to : PCI/ISA PnP*	
DMA-5 assigned to : PCI/ISA PnP*	
DMA-6 assigned to : PCI/ISA PnP*	
DMA-7 assigned to : PCI/ISA PnP*	
	ESC: Quit :Select Item
	F1 : Help PU/PD/+/- :Modify
	F5 : Old Values (Shift)F2 : Color
	F6 : Load BIOS Defaults
	F7 : Load Setup Defaults

* These items will disappear when Resource Controlled is Auto.

2. Use the arrow keys to move between items and select values. Modify selected fields using the PgUp/PgDn/+/- keys.

A short description of screen items follows:

Resources Controlled By Manual: BIOS doesn't manage PCI/ISA PnP card (i.e.,IRQ) automatically.
Auto : BIOS auto manage PCI/ISA PnP card (recommended)

Reset Configuration Data Disabled: Retain PnP configuration data in BIOS.
Enabled: Reset PnP configuration data in BIOS.

IRQX and DMAX assigned to Choose PCI/ISA PnP or Legacy ISA, If the first item is set Manual, you could choose IRQX and DMAX assigned to PCI/ISA PnP card or ISA card.
PCI/ISA PnP: BIOS auto assigns IRQ/DMA to the device.
Legacy ISA: User assigns IRQ/DMA to the device.

- PCI IRQ Activated By** Choose Edge or Level. Most PCI trigger signals are Level. This setting must match the PCI card.
- PCI IDE IRQ Map To** Select PCI-AUTO, ISA, or assign a PCI SLOT number (depending on which slot the PCI IDE is inserted.) The default setting is PCI-AUTO. If PCI-AUTO does not work, then assign an individual PCI SLOT number.
- Primary IDE INT#** Choose INTA#, INTB#, INTC#, or INTD#. the default setting is INTA#
- Secondary IDE INT#** Choose INTA#, INTB#, INTC#, or INTD#. the default setting is INTB#.

3. After you have finished with the PCI Slot configuration, press the <ESC> key and follow the screen instructions to save or disregard your settings.

3.6 Load Setup Defaults

This item loads the system values you have previously saved. Choose this item and the following message appears:

"Load SETUP Defaults (Y/N)? N"

To use the SETUP defaults, change the prompt to "Y" and press <Enter>.

This item is recommended if you need to reset the system setup.

【3】

3.7 Integrated Peripherals

The Integrated Peripherals option changes the values of the Chipset registers. These registers control system options in the computer.

Note: Change these settings only if you are familiar with the Chipset.

Run the Integrated Peripherals as follows.

1. Choose "Integrated Peripherals" from the Main Menu and the following screen appears. (The screen below shows default settings.)

```
ROM PCI/ISA BIOS
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.

IDE HDD Block Mode      :Enabled
IDE Primary Master PIO  :Auto
IDE Primary Slave PIO   :Auto
IDE Secondary Master PIO:Auto
IDE Secondary Slave PIO :Auto
On-Chip Primary PCI IDE:Enabled
On-Chip Secondary PCI IDE:Enabled
PCI Slot IDE 2nd Channel:Enabled
USB Controller          :Disabled

Onboard FDD Controller  :Enable
Onboard Serial Port 1   :COM1/3F8
Onboard Serial Port 2   :COM2/2F8
Onboard Parallel Port   :378H
Onboard Parallel MODE   :Normal

ESC: Quit                :Select Item
F1 : Help                PU/PD/+/- :Modify
F5 : Old Values          (Shift)F2 : Color
F6 : Load BIOS Defaults
F7 : Load Setup Defaults
```

2. Use the arrow keys to move between items and select values. Modify selected fields using the PgUp/PgDn/+/- keys.

A short description of screen items follows:

IDE HDD Block Mode Choose Enabled (default) or Disabled. Enabled invokes multi-sector transfer instead of one sector per transfer. Not all HDDs support this function.

IDE Primary Master PIO
IDE Primary Slave PIO
IDE Secondary Master PIO
IDE Secondary Slave PIO Choose Auto (default) or mode 0-4. Mode 0 is the slowest speed, and HDD mode 4 is the fastest speed. For better performance and we stability, suggest you use the Auto setting to set the HDD control timing.

On-chip Primary PCI IDE Enable: Use the on-board IDE (default)

- On-chip Secondary PCI IDE Disable:** Turn off the on-board IDE.
- PCI Slot IDE 2nd Channel** Choose Enabled (default) or Disabled. When Enabled is set, IRQ 15 is dedicated for secondary IDE use. When Disabled is set, IRQ 15 is released for other devices.
- USB Controller** Enable or Disable USB Function.
- Onboard FDD Controller** Enable: Use the on-board floppy controller (default).
Disable: Turn off the on-board floppy controller
- Onboard Serial Port 1** Choose Serial port 1 & 2's I/O address. Do not
Onboard Serial Port 2 set port 1 & 2 to the same value except for Disabled.
- | | |
|------------|-----------|
| COM 1/3F8H | COM3/3E8H |
| COM 2/2F8H | COM4/2E8H |
| (default) | |
- Onboard Parallel Port** Choose the printer I/O address:
378H/IRQ7(default), 278H/IRQ5, 3BCH/IRQ7.
- Onboard Parallel Mode** Choose ECP + EPP, SPP(default) or EPP, ECP mode. The mode depends on your external device that connects to this port.

3. After you have finished with the Integrated Peripherals, press the <ESC> key and follow the screen instructions to save or disregard your settings.

3.8 Supervisor Password

Base on the setting you made in the "security Option" of the "BIOS FEATURES SETUP", This Main Menu item lets you configure the system so that a password is required every time the system boots or an attempt is made to enter the Setup program. Change the password as follows:

1. Choose "SUPERVISOR PASSWORD " in the Main Menu and Press <Enter>. The following message appears:

"Enter Password:"

2. Enter a password and press <Enter>. (If you do not wish to use the password function, you can just press <Enter> and a "Password disabled" message appears.)
3. After you enter your password, the following message appears prompting you to confirm the new password:

"Confirm Password"

4. Re-enter your password and then Press <ESC> to exit to the Main Menu.
5. You have the right to change any changeable settings in the "COMS SETUP UTILITY."

Important : If you forget or lose the password, the only way to access the system is to set jumper JP38 to clear the CMOS RAM. all setup information is lost and you must run the BIOS setup program again.

3.9 User Password

Base on the setting you made in the "security Option" of the "BIOS FEATURES SETUP", This Main Menu item lets you configure the system so that a password is required every time the system boots or an attempt is made to enter the Setup program. Change the password as follows:

1. Choose "USER PASSWORD " in the Main Menu and Press <Enter>. The following message appears:

"Enter Password:"

2. Enter a password and press <Enter>. (If you do not wish to use the password function, you can just press <Enter> and a "Password disabled" message appears.)
3. After you enter your password, the following message appears prompting you to confirm the new password:

"Confirm Password"

4. Re-enter your password and then Press <ESC> to exit to the Main Menu.
5. You are not allowed to change any settings in the "COMS SETUP UTILITY." except change user's password.

Important : If you forget or lose the password, the only way to access the system is to set jumper JP38 to clear the CMOS RAM. all setup information is lost and you must run the BIOS setup program again.

【3】

3.10 IDE HDD Auto Detection

This Main Menu item automatically detects the hard disk type and configures the STANDARD CMOS SETUP accordingly.

Note: This function is only valid for IDE hard disks.

```
ROM PCI/ISA BIOS
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.
```

HARD DISK	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master	:None	0	0	0	0	0	0	0
Primary Slave	:None	0	0	0	0	0	0	0
Secondary Master	:None	0	0	0	0	0	0	0
Secondary Slave	:None	0	0	0	0	0	0	0

Do you accept this drive C (Y/N)?N

ESC : Skip

R-533 CPU Jumper Setting Quick Reference

CPU type		CPU Power Voltage					System Clock			CPU Speed		Refresh Time
		I/O	Core	JP12	JP22	JP23	MHz	JP3, JP4, JP5	Ratio	JP18, JP19	JP21	
Intel	P54C-75	3.3					50		3/2			
	P54C-90	3.3					60		3/2			
		3.45										
		3.5										
	P54C-120	3.3							2/1			
	P54C-150	3.5							5/2			
	P54C-180								3/1			
	P54C-100	3.3							3/2			
	P54C-133	3.45							2/1			
	P54C-166	3.5					66		5/2			
	P54C-200								3/1			
	P55C(MMX) -166	3.4	2.8				66		5/2			
P55C(MMX) -200								3/1				
Cynix 6x86	6x86-P120 @100MHz	3.5				50		2/1				
	6x86-P133 @110MHz					55						
	6x86-P150 @120MHz					60						
	6x86-P166 @133MHz					66						
AMD 6x86	P75	3.45				50		3/2				
	P90					60						
	P100					66						
AMD K6	PR166	3.4	2.9			66		5/2				
	PR200							3/1				
	PR233							7/2				