R861 Series

Flex-ATX FORM, SiS 661FX/963L Chipset.

USER'S MANUAL

R861 Series

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Pentium® 4 Processor Motherboard

PCB Ver. A1

Manual Ver. 40113

Introduction

Thanks for choosing the Rise Computer Inc. The next generation high performance Socket 478 motherboard “R861”. The R861 series uses the high performance SiS 661FX/963L chipset that will deliver superior performance to your computer.

About This User’s Guide

This User’s Guide is for assisting system manufactures and end user in setting up and installing the motherboard. Information in this guide has been carefully checked for reliability, however, there may still be inaccuracies and information in this document is subject to change without notice.

DISCLAIMER

The information in this manual has been carefully checked and is believed to be accurate. We assume no responsibility for any inaccuracies that may still be contained in this manual. We reserve the right to make changes to this material at any time without notice.

REMARK

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http://www.rise.com.tw

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1.1 Item Checklist

[√] The R861 Series motherboard
[√] CD for motherboard driver & utility
[√] R-861 Series user's manual
[√] I/O Shield
[√] IDE cable x1 / Floppy cable x1 / COM PCI bracket cable x1
[*] Composite cable x1 / S-Video cable x1

* (Only for R861LT / R861GT / R861LTA / R861GTA)

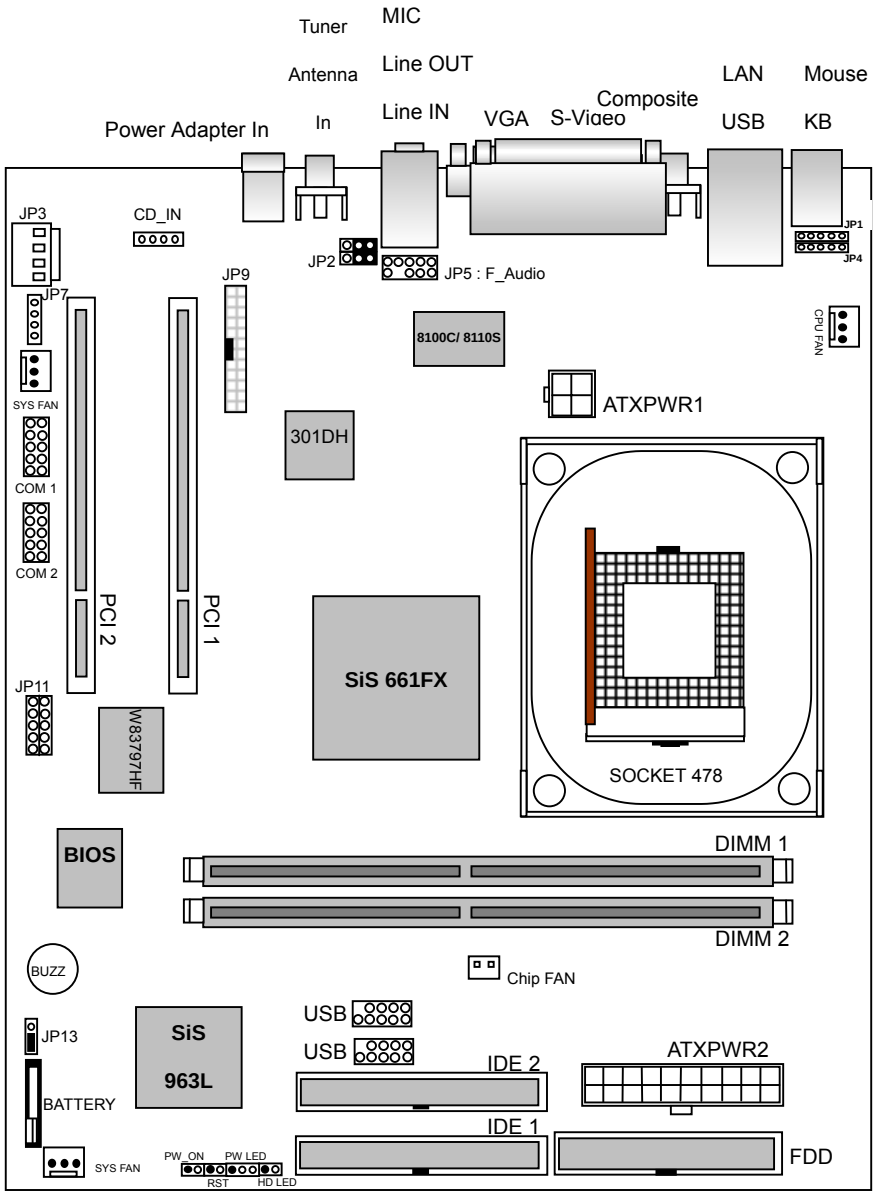
CAUTION : Computer motherboard and expansion cards contain very delicate Integrated Circuit (IC) chips. To protect them against damage from static electricity, you should follow some precautions whenever you work on your computer.

1. Unplug your computer when working on the inside.
2. Use a grounded wrist strap before handling computer components. If you do not have one, touch both of you hands to a safely grounded object or to a metal object, such as the power supply case.
3. Hold components by the edges and try not touch the IC chips, leads or connectors, or other components.
4. Place components on a grounded antistatic pad or on the bag that come with the components whenever the components are separated from the system.
5. Ensure that the ATX power supply is switched off before you plug in or remove the ATX power connector on the motherboard.

Installing the motherboard to the chassis…

If the motherboard has mounting holes, but they don't line up with the holes on the base and there are no slots to attach the spacers, do not become alarmed you can still attach the spacers to the mounting holes. Just cut the bottom portion of the spacers (the spacer may be a little hard to cut off, so be careful of your hands). In this way you can still attach the motherboard to the base without worrying about short circuits. Sometimes you may need to use the plastic springs to isolate the screw from the motherboard PCB surface, because the circuit wire may be near by the hole. Be careful, don't let the screw contact any printed circuit write or parts on the PCB that are near the fixing hole, otherwise it may damage the board or cause board malfunctioning.

1.2 Layout

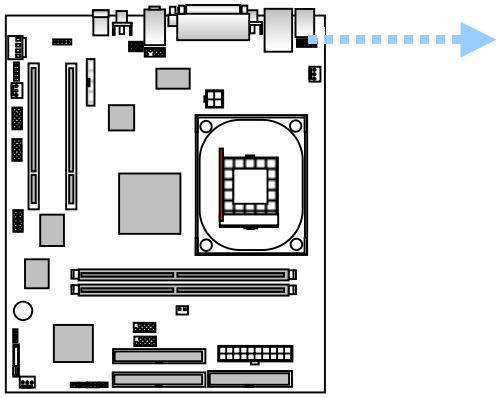

Tuner
MIC
Antenna
Line OUT
LAN
Mouse
Composite
Power Adapter In
In
Line IN
VGA
S-Video
USB
KB
JP3
CD_IN
JP1
JP2
JP4
JP5 : F_Audio
JP9
JP7
8100C/ 8110S
CPU FAN
SYS FAN
ATXPWR1
301DH
COM 1
COM 2
PCI 2
PCI 1
SiS 661FX
JP11
W83797HF
SOCKET 478
BIOS
DIMM 1
DIMM 2
BUZZ
Chip FAN
USB
JP13
SiS
963L
USB
IDE 2
ATXPWR2
BATTERY
IDE 1
SYS FAN
PW_ON
PW LED
RST
HD LED
FDD

1.3 CPU Clock Setting

This motherboard will auto detecting CPU clock & voltage by its BIOS when computer power on. So you don't need to setting CPU clock & voltage by yourself.

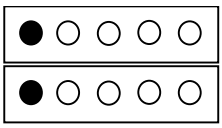
1.4 Jumper & Connectors :

JP1, JP4 : PS/2 Keyboard, Mouse Jumper Pin.



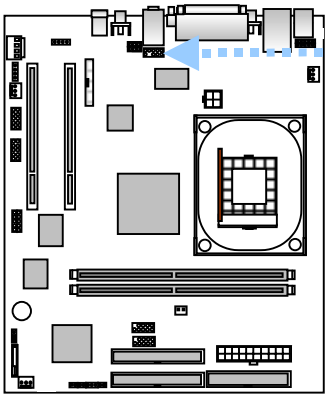
JP1, JP4 : PS/2 Keyboard, Mouse Jumper Pin.

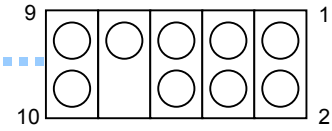
DATA / CLK / GND / None / VCC



Pin 1

JP5 : F_Audio - Case Front Panel Audio Jumper Pin :

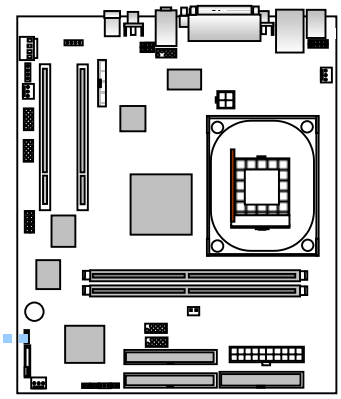




Pin 1	MIC	**6**	None
2	GND	**7**	None
3	Vcc	**8**	None
4	Vcc	**9**	L_OUT
5	R_OUT	**10**	None

JP13 : CMOS Clear

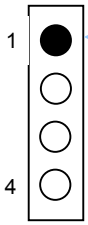
JP13 : CMOS Clear	
2-3 Close 	NORMAL (default)
1-2 Close 	CLEAR CMOS

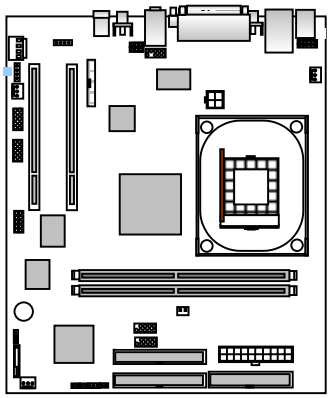


JP7 : TO PCI RISER CARD Connect Jumper Pin.

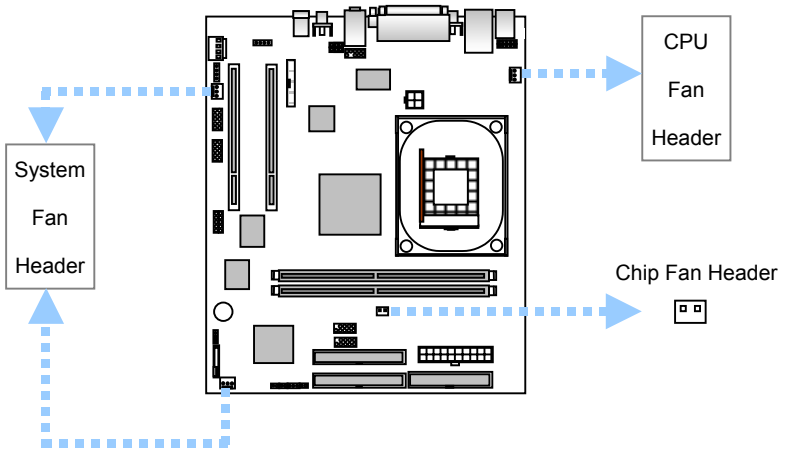
RED Line to Pin 1.

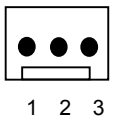
PIN 1	PCICLK4
2	PREQ-3
3	PGNT-3
4	AD22





CPU & CHASSIS FAN Header : Connect RED line to 12V.





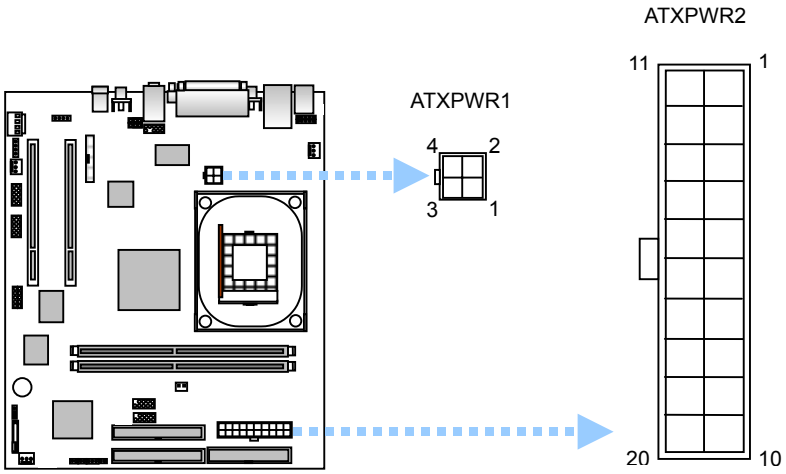
Pin Assignment

1 : GND

2 : 12V

3 : SENSE

ATX Power Connector : The R861 series motherboard must connect power line to both of "ATXPWR1" & "ATXPWR2" header.



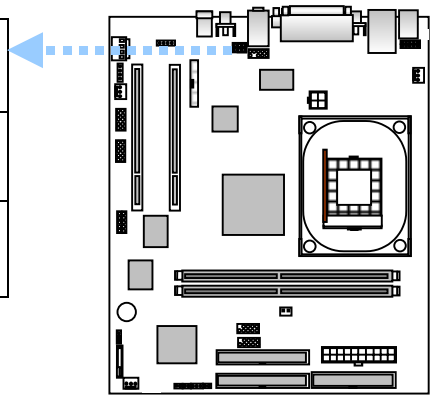
ATXPWR2			
PIN NO	**Definition**	**PIN NO**	**Definition**
1	+3.3V	**11**	+3.3V
2	+3.3V	**12**	-12V
3	GROUND	**13**	GROUND
4	+5V	**14**	Power Supply On
5	GROUND	**15**	GROUND
6	+5V	**16**	GROUND
7	GROUND	**17**	GROUND
8	Power Good	**18**	-5v
9	+5V Standby	**19**	+5v
10	+12V	**20**	+5v

ATXPWR1			
PIN NO	**Definition**	**PIN NO**	**Definition**
1	GROUND	**3**	+12V
2	GROUND	**4**	+12V

JP2 : VPC-1000 multimedia DVD-ROM Sound / PC Sound Select :

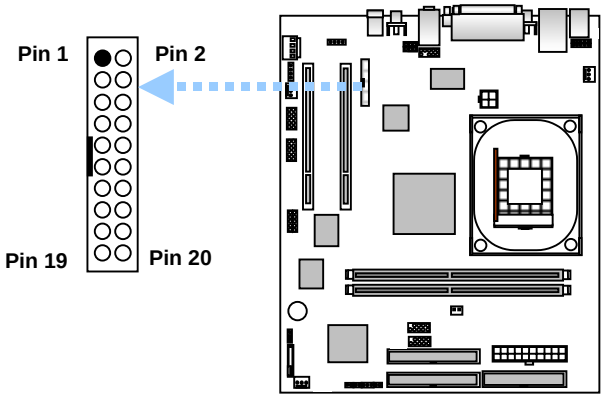
*(only for R861LA/R861GA/R861LTA/R861GTA)

JP2 Sound source select	
5 1 6 2	For VPC-1000
	For PC-Sound



JP9 : VPC-1000 multimedia DVD-ROM Control cable header

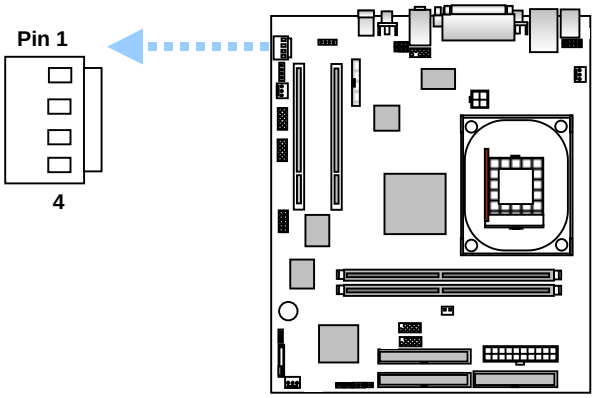
*(only for R861LA/R861GA/R861LTA/R861GTA)



JP9			
1	None	11	PC-Rin
2	None	12	PC-Lin
3	SCL	13	Antenna
4	SDA	14	FM_Rout
5	GND	15	FM_Lout
6	GND	16	GND
7	CD-DA_Lout	17	3A
8	3A	18	WOW-Rout
9	CD-DA_Lout	19	Mute
10	3A	20	WOW-Lout

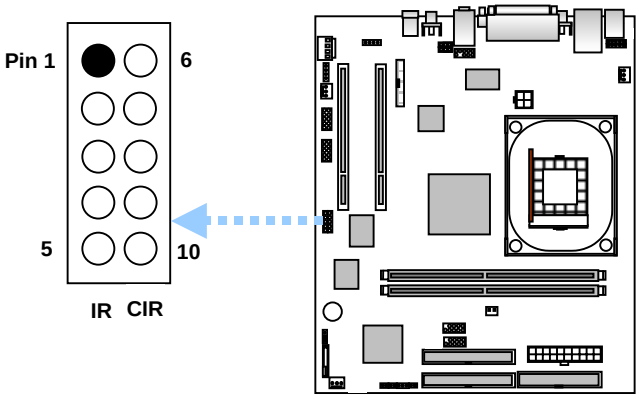
JP3 : Power Supply to VPC-1000 multimedia DVD-ROM

*(only for R861LA/R861GA/R861LTA/R861GTA)



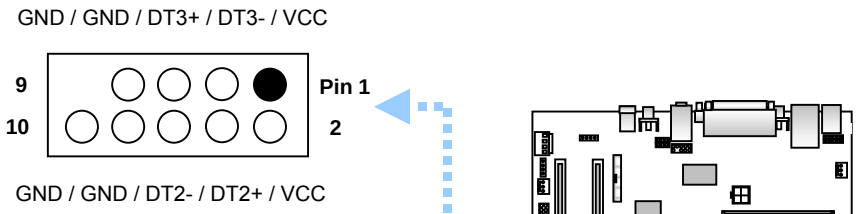
JP3			
PIN NO	**Definition**	**PIN NO**	**Definition**
1	+12V	**3**	GROUND
2	GROUND	**4**	+5V

JP11 : IR / CIR header.

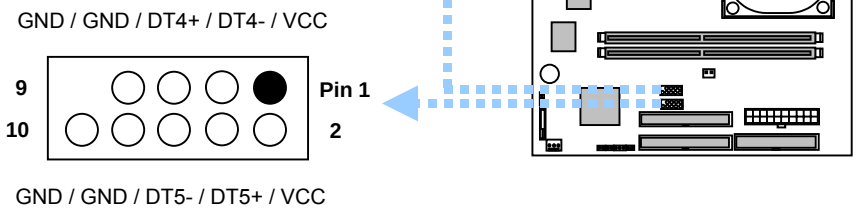


IR		CIR	
Pin 1	VCC	**Pin 6**	None
2	None	**7**	CIRRX
3	IRRX	**8**	IOVSB
4	GND	**9**	GND
5	IRTX	**10**	None

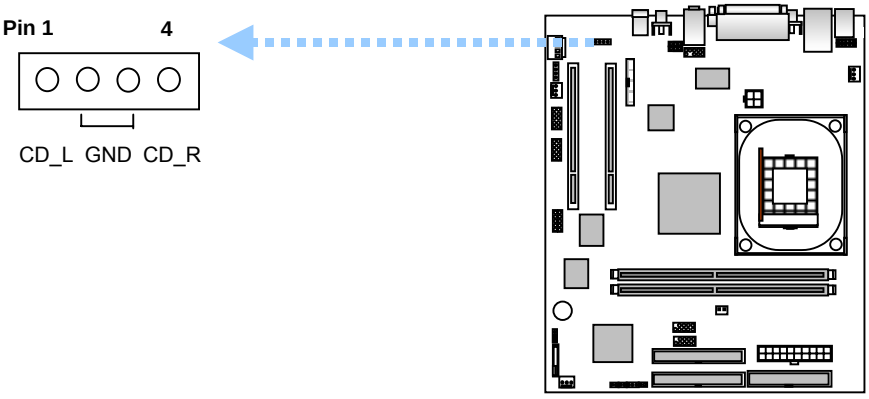
USB3/4 : USB Jumper Pin.



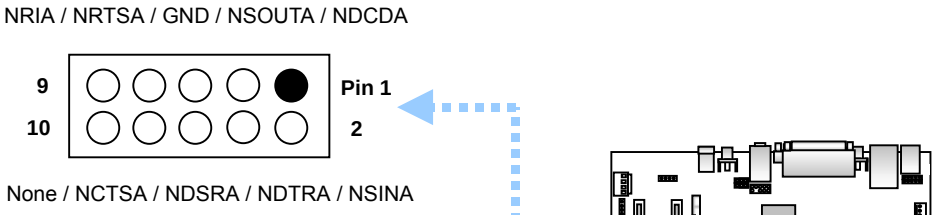
USB5/6 : USB Jumper Pin.



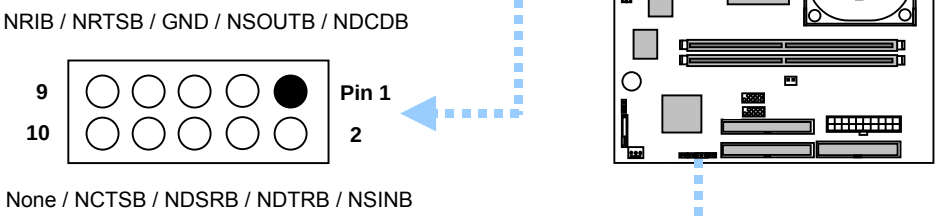
CD_IN (J3) : CDROM Audio Connect Pin.



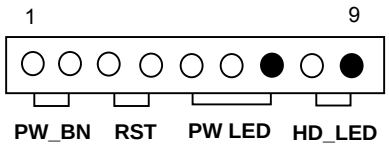
COM1 :



COM2 :

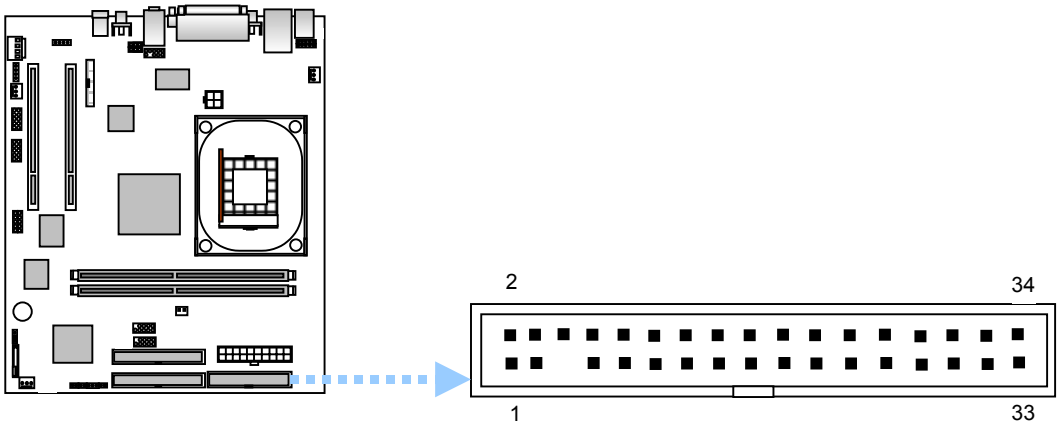


CN3 : Front panel connector.



FDD (Floppy Connector) :

Please connect the floppy driver ribbon cables to FDD. It supports 360k, 1.2M, 720k, 1.44M and 2.88M bytes floppy disk types. The red stripe of the ribbon cable must be the same side with the Pin1

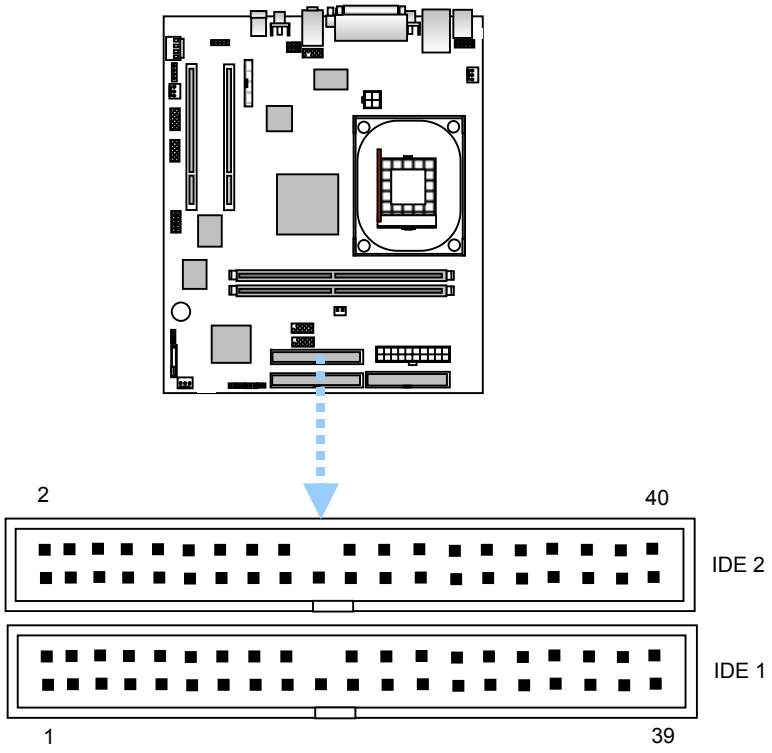


IDE1 / IDE 2 (IDE1 / IDE2 Connector) :

Important Notice :

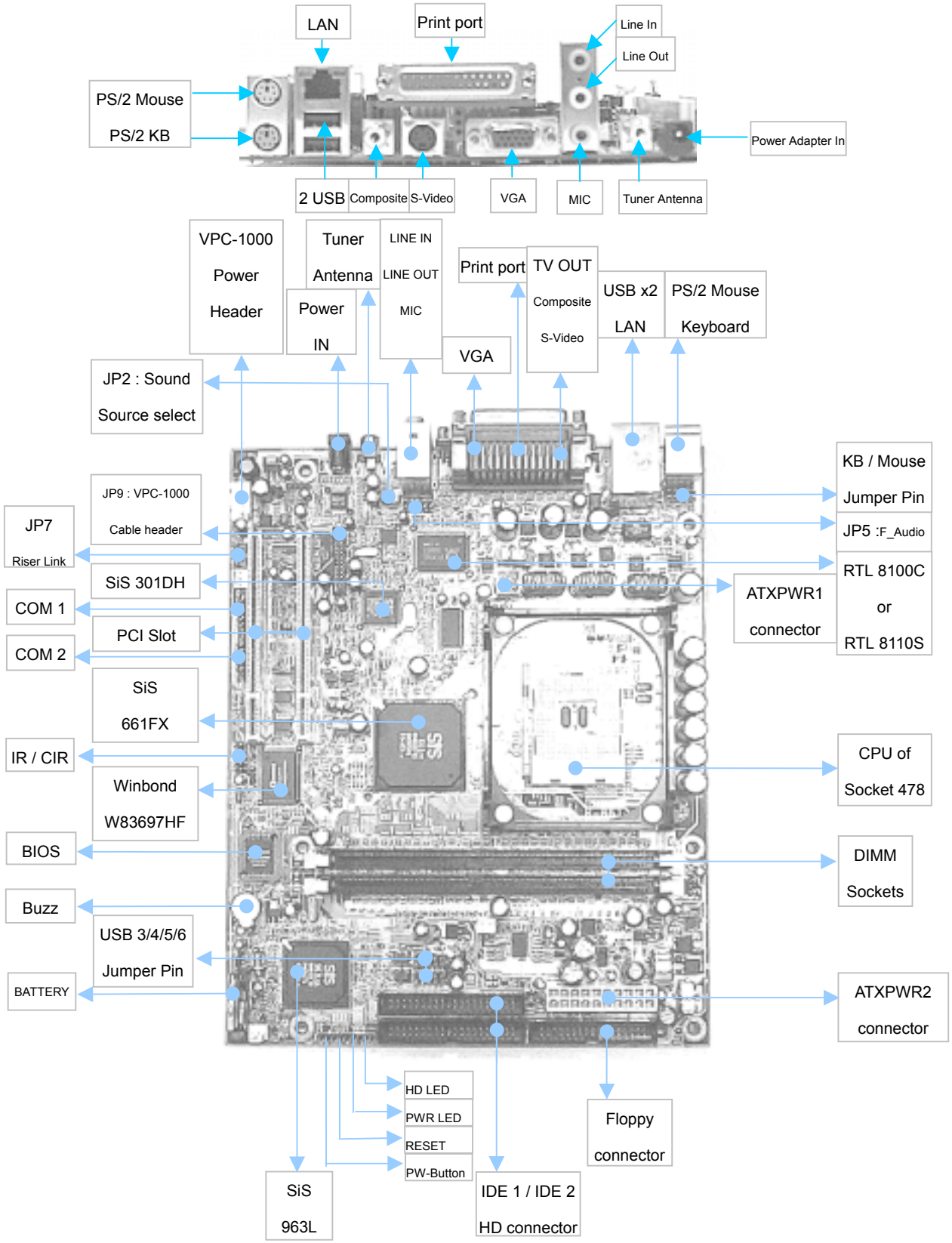
Please connect first hard disk to IDE1 and connect CD-ROM to IDE2.

The red stripe of the ribbon cable must be the same side with the Pin1.

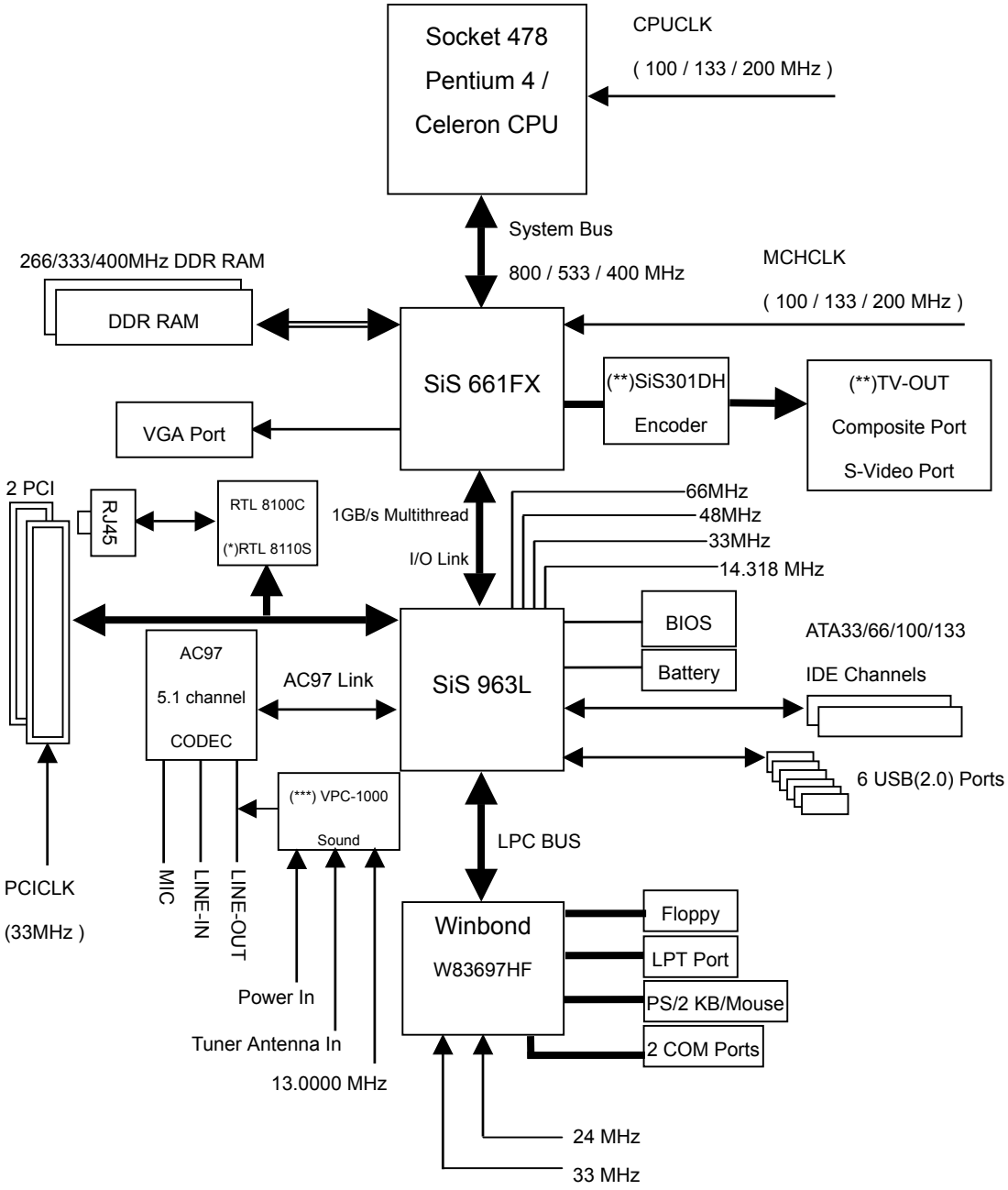


2. Feature

2.1 **R861** series Motherboard (PCB Ver. A1) Components Placement



2.2 Block Diagram



(*) Only for R861G/R861GT/ R861GTA

(**) Only for R861LT/R861GT/ R861LTA/R861GTA

(***) Only for R861LA/R861GA/R861LTA/R861GTA

2.3 Motherboard Specifications

Motherboard	R861 Series include : ● R861L/ R861G/R861LT/R861GT ● R861LA/R861GA/R861LTA/R861GTA (for VPC-1000 Multimedia DVDROM)
CPU	● Socket 478 for Intel® Micro FC-PGA2 Pentium 4 processor. ● Support Intel® Pentium 4 (Northwood, Prescott) processor. ● Support Intel® Pentium 4 Processor with HT Technology <note> ● Intel® Pentium 4 800/533/400MHz FSB. ● Support Intel® Celeron up to 2.8GHz ● Support Intel® Pentium 4 up to 3.2GHz CPU. ● 2nd cache depends on CPU.
Chipset	● SiS® Chipset 661FX HOST/AGP/Controller. ● SiS® 963L I/O Controller Hub.
Memory	● 2 184-pin DDR DIMM sockets. ● Supports DDR400/DDR333/DDR266 DIMM. ● Supports 128MB/256MB/512MB/1GB unbuffered DRAM. ● Supports up to 2GB DRAM (MAX) ● Supports only 2.5V DDR SDRAM.
I / O Control	● Winbond® W83697HF
Slots	● 2 PCI slots support 33MHz & PCI 2.2 compliant.
On-Board IDE	● 2 IDE controllers provides IDE HDD/CD-ROM (IDE1, IDE2) with PIO, Bus Master(Ultra DMA 33 / ATA66 / ATA100 / ATA133) operation modes. ● Can connect up to 4 IDE devices.
On-Board Peripherals	● 1 Floppy Port supports 2 FDD with 360K, 720K, 1.2M, 1.44M and 2.88M bytes. ● 1 Parallel Port supports Normal / ECP / EPP mode. ● 2 Serial Ports (16550 Fast UART Compatible) by cable. ● 6 USB 2.0 / 1.1 ports (2 x Rear, 4 x Front by cable). ● 1 Front Audio connector. ● 1 IrDA, 1 CIrDA Support. ● 1 Riser Link (for Riser Card).
PS/2 Connector	● PS/2 Keyboard interface and PS/2 Mouse interface, Jumper Pin supports.
On-Board VGA	● Integrated in SiS® 661FX, Ultra-AGPII 8X VGA, Share memory up to 64MB. ● Advanced Hardware Acceleration for DVD playback.
(*) **On-Board LAN**	● RTL 8100C (10/100Mbps) or RTL 8110S (10/100/1000Mbps) chipset ● 1 RJ45 port..

(**) **TV-OUT**	● SiS® 301DH chip, resolution – 640x480 / 800x600 / 1024x768 full screen. ● Support NTSC & PAL. ● 1 composite port. ● 1 S-Video port.
On-Board Sound	● Realtek® ALC 655 AC'97 codec. ● Supports Jack-Sensing function. ● Support 6 channel Sound Line In / 2 rear speaker (by s/w switch). Line Out / 2 front speaker (by s/w switch). MIC In / center & subwoofer (by s/w switch). ● CD In.
Hardware Monitor	● CPU / System fan revolution detect. ● CPU / System temperature detect. ● System voltage detect.
(***) **VPC-1000** **On-Board Sound**	● 1 Tuner Antenna ● 1 power In ● 1 VPC-1000 Power & Control connector.
BIOS	● Licensed AWARD BIOS ● 2MB Firmware
Form Factor	● 24.5 mm x 19.5 mm, Flex-ATX size form factor, 4 Layers PCB.
Advance Features : ● **PS/2 Keyboard power on by password.** ● **PS/2 Mouse power on.** ● **STR (Suspend-To-RAM)** ● **AC Recovery.** ● **Poly fuse for keyboard over-current protection.** ● **USB KB/Mouse wake up from S3.**	

(*) **RTL 8100C** for R861L/R861LT/R861LTA, **RTL 8110S** for R861G/R861GT/R861GTA.

(**) Only for R861LT/R861GT/R861LTA/R861GTA

(***) Only for R861LA/R861GA/R861LTA/R861GTA

Note : HT functionality requirement content :

Enabling the functionality of Hyper-Threading Technology for your computer system requires all of the following platform components :

- CPU : An Intel ® Pentium 4 Processor with HT Technology.
- Chipset : A SiS® 661FX Chipset that supports HT Technology.
- BIOS : A BIOS that supports HT Technology and has it enabled.
- OS : An operation system (Windows XP SP1) that has optimizations for HT Technology.

▲ Please set the CPU host frequency in accordance with your processor's specifications. We don't recommend you to set the system bus frequency over the CPU's specification Because these specific bus frequencies are not the standard specifications for CPU, Chipset and most of the peripherals. Whether your system can run under these specific bus frequencies properly will depend on your hardware configurations, including CPU, Chipsets, SDRAM, Cards…etc.

3. Hardware Setup

3.1 Before Installation

For installation, you may need tool (screwdriver).

Users must follow these guidelines to ensure the motherboard is protected during installation.

1. Make sure your computer is powered-off whenever work in with inside components.

2. The motherboard, like all other electronic equipment, is sensitive to static. Please take the proper precautions when handling it. If possible, ground yourself by touching a metal table or desk. Keep the board in its conductive wrapping until it is configured and ready to be installed in your system.

3. Keep all magnets away from both your hard and floppy disk drives, especially magnetic screwdrivers. Keep both floppy and hard disks apart if disassembled.

4. Keep water and liquids away from your computer and its components

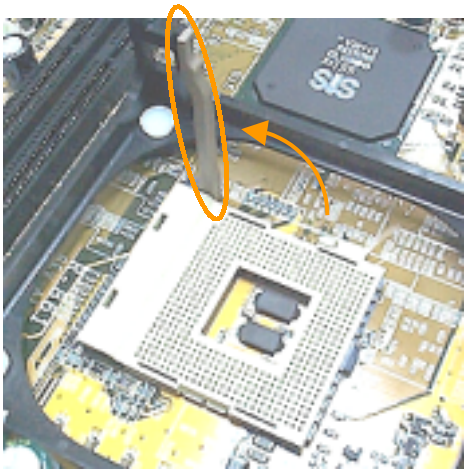
3.2 Install the CPU

The CPU should have a fan attached to it to prevent overheating. If this is not the case, then purchase a fan before you turn on your system.

Be sure that there is sufficient air circulation across the CPUs heat sink by regularly checking that your CPU fan is working. Without sufficient circulation, the processor could overheat and damage both the CPU and the motherboard. You may install an auxiliary fan, if necessary.

Step 1 : Locate the ZIF socket and open it by first pulling the lever of socket upward.

* Please make sure the CPU type is supported by the motherboard.

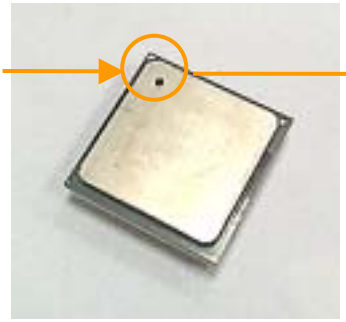


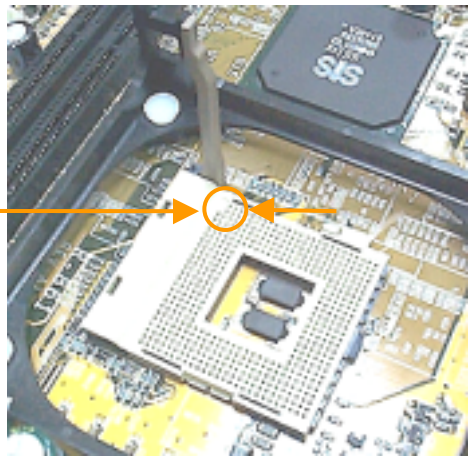
Step 2 : Insert the CPU into the socket. Please keep the lever angle when inserting CPU.

When inserting the CPU please note the correct orientation as shown.

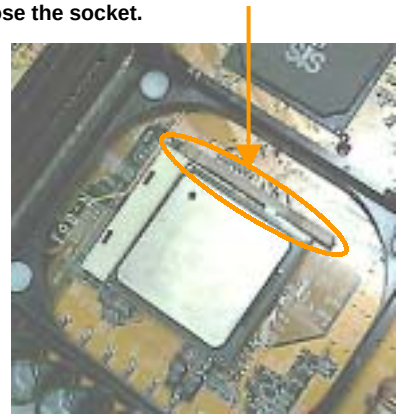
The notched corner should point toward the end of the lever.

***** If you do not match the CPU socket Pin 1 and CPU cut edge well, it will cause improper installation. Please change the insert orientation.

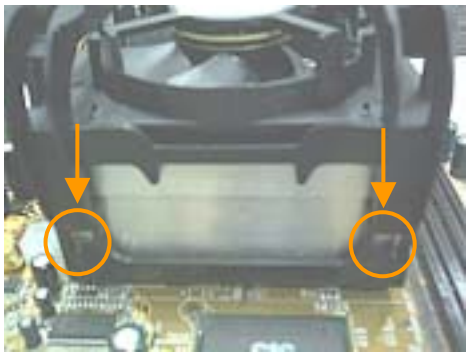


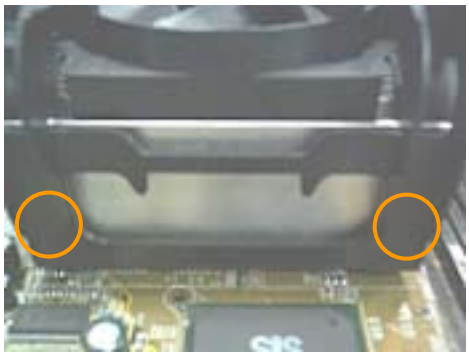


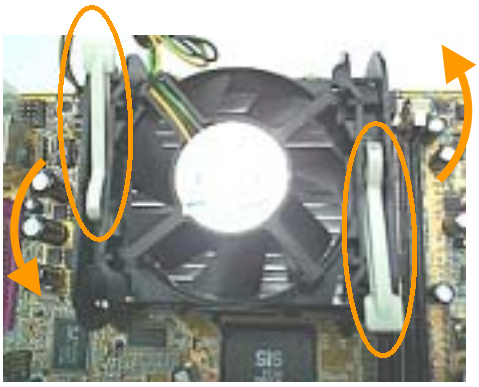
Step 3 : Push the lever down to close the socket.

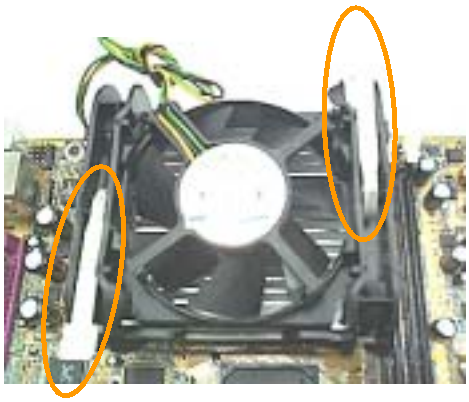


Step 4 : Attach the heat sink onto the CPU. Be careful not to scrape the motherboard when mounting a clamp CPU fan or else damage may occur to the motherboard. Attach the fan cable to the CPU fan header.









3.3 Install Memory Modules

The motherboard has two Dual In-line Memory Module (DIMM) sockets and supports the maximum size up to 2GB. These DIMM sockets only support 2.5V DDR SDRAM modules of 128MB, 256MB, 512MB, 1GB.

Step 1 : Open latches of DIMM socket.

Step 2 : Proofread the RAM module to the DIMM socket.

Step 3 : Insert the RAM module into the DIMM socket. Press the latches into the notches of the RAM module.

3.4 ATX Power Supply Connector

"In order to support the power up function other than power/soft-off button, such as Wake-On-LAN, your ATX power supply must supply at least 2A, 5Vsb".

Power on procedures

STEP	Description
1	After all connections are made, close the system case over.
2	Be sure that all switches are off.
3	Connect the power cord into the power supply located on the back of your system case.
4	Connect the power cord a power out let that is equipped with a surge protector.
5	Many of the power supply support 110V/220V by a switch setting. Switch your power supply to the correct supply voltage.
6	Turn on your system in the following order 1. The monitor 2. The external devices. 3. The computer system.

"The power LED on the front panel of the chassis will light. After few seconds, the system will then run power-on tests. Some additional messages will appear on the screen during the test. 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 the jumper settings and connections or call your retailer for assistance."

Power off procedures

STEP	Description
1	Exit from all the software applications.
2	Shut down your operating system.
3	Switch off power button. If you are using Win Me/XP, the power supply should turn off automatically after Windows shut down.
4	Turn off all external devices.
5	Turn off you monitor.

3.5 Front Panel / Back Panel

Front Panel		
Function	**Color**	**Description**
F_Audio jumper pin : Line Out MIC	 Green Pink	Some case designed front audio jack on case front panel for customer, so user can use the case front audio cable connect to this jumper pin for use front audio jack.
Back Panel		
Function	**Color**	**Description**
PS/2 Mouse (6 pin female)	Green	This connector can be used to support a PS/2 mouse
PS/2 Keyboard (6 pin female)	Purple	This connector can be used to support a PS/2 keyboard.
Universal Serial Bus USB 2.0 / 1.1 support On-board : USB0/USB1 Cable : USB2/USB3/USB4/USB5	Black	This motherboard has on-board two USB ports, any USB compatible peripherals and hub can be connected into either USB port. Another 4 USB ports can extended from on-board USB jumper pin by USB PCI bracket cable.
LAN port	Black	This connector can be used to support RJ-45 cable.
*TV-OUT : Composite Video.	Yellow	This connector is used for Composite Video to TV.
*TV-OUT : S-Video	Black	This connector is used for S-Video to TV.
VGA port (15 pin female)	Blue	This connector can be used to support CRT/LCD monitor.
Parallel port (25 pin female)	Pink	This connector is used for printers, or other parallel devices.
Line In (Rear speaker) Line Out (Front speaker) MIC (Center & subwoofer)	Blue Green Pink	After install onboard audio driver, you may connect speaker to Line Out jack, microphone to MIC in jack. Device like CD-ROM, walkman etc. can be connected to Line In jack. **Note :** You are able to use 2 / 4 / 6 channel audio feature by S/W selection. If you want to enable 6 channel function, the hardware connection : Connect “Front Speaker” to “Line Out” Connect “Rear Speaker” to “Line In” Connect “Center & Subwoofer Speaker” to “MIC”
Serial port : COM 1, COM2 (9 pin Male)	Blue	Two serial ports can extended from on-board COM 1/2 jumper pin by 2 COM PCI bracket cable.
**Tuner Antenna	Black	This connector is used for VPC-1000 tuner antenna.
**AC to DC Power Adapter In	Black	This connector is used for VPC-1000 power in..

* Only for R861LT/R861GT/R861LTA/R861GTA

**Only for R861LA/R861GA/R861LTA/R861GTA.

Chapter 4. BIOS Setup

4.1 Flash BIOS

The BIOS can be upgraded from a diskette with the Award Flash utility – AWDFLASH.EXE The BIOS image file, and update utility are available from RISE website “http://www.rise.com.tw”

How to Update BIOS (Flash ROM)

1. Copy the Flash Utility to a bootable diskette. Ex : C:\>copy awdflash.exe a:
2. Copy the new bios file to the diskette. Ex : C:\>copy filename.bin a:
3. Turn the system on and run the Flash Utility.
   Ex : A:\>awdflash filename.bin /cc (/cc is Clear CMOS).
4. Follow the prompt and input the file name.
   ”Do You Want To Save Bios (Y/N)” – Press “Y” : please input file name [Enter].
   The program will backup your old bios.
   Press “N” : “Are you sure to program (y/n)”, please press “y” and flash bios.
5. After flashed, press F1 to reboot your computer and press <DEL> to enter BIOS Setup, setting CMOS data (because used “/cc” this function will clear CMOS data), then Save & Exit Setup.

4.2 Enter BIOS Setup program

Power on the system by either pressing the Power On button, or by using and of the power on features provided by the motherboard. Then, press the <DEL> key after the Power On Self Test (POST), and before the scanning of IDE devices, Simply look for the message “Press F1 to continue, DEL to enter SETUP” displayed at the bottom of the screen during the boot up process. If the message disappears before you’ve had a chance to respond, you can restart the system by Turning off the system power then turn it on again, or Pressing the Pressing the “RESET” button on the system case, or Pressing <CTRL>, <ALT> and <DEL> keys simultaneously.

Generally, the BIOS default settings have been carefully chosen by the system manufacturer to provide the absolute maximum performance and reliability. It is very dangerous to change any setting without full understanding. We strongly recommend that you.

DO NOT update your BIOS if the system works perfectly.

DO NOT change any setting unless you fully understand what it means.

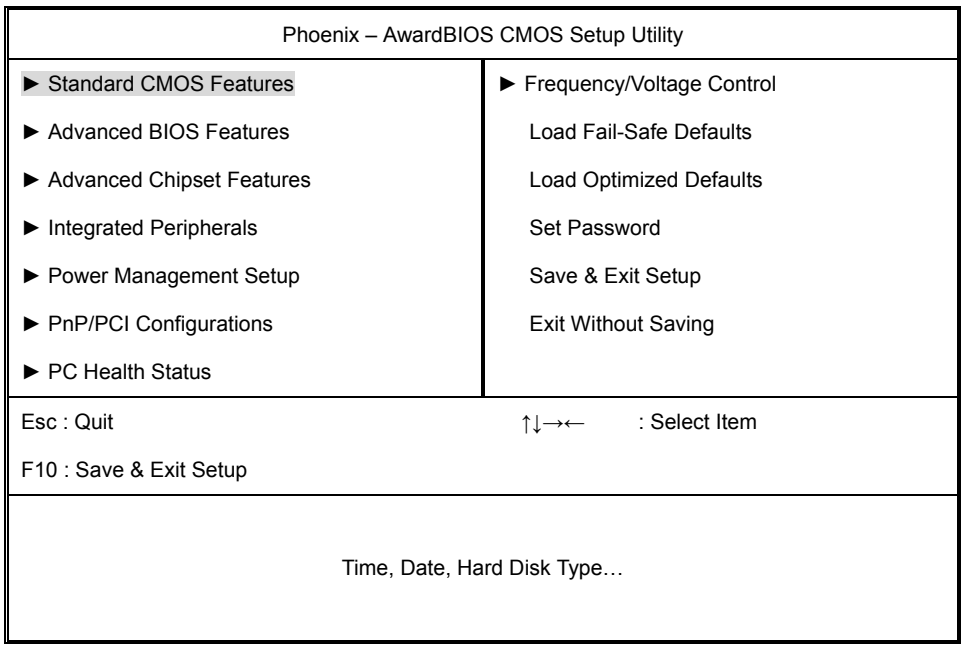
Using BIOS setup program

Up ↑	Move to the previous field
Down ↓	Move to the next field
Left ←	Move to the field on the left hand side
Right →	Move to the field on the right hand side
<ESC>	Quit from setup program without saving changes, or Exit from current menu page and return to main menu page
<Page Up> or <+>	Select the previous value for a field
<Page Down> or <->	Select the next value for a field
<F1>	General Help
<F2>	Item Help
<F5>	Previous Values
<F6>	Fail-Safe Defaults
<F7>	Optimized Defaults.
<F10>	Save the current value and exit setup program

If the system is no longer able to boot after changing the settings, the only way to recover it is to clear the data stored in RTC CMOS. To reset the RTC CMOS data, take the **JP13** jumper cap off pins 2-3 place onto pins 1-2, and then place back onto pins 2-3 again. This will return the RTC to the default setting. Then, get into the BIOS setup program, choose Load Fail-Safe Defaults ; Load Optimized Defaults, and select the original manufacturer default settings in you CMOS.

4.3 Main Menu

The main menu allows you to select from several setup pages. Use the arrow keys to select among these pages and press <Enter> key to enter the sub-menu. A brief description of each highlighted selection appears at the bottom of the screen.



4.4 Standard CMOS Features

Phoenix – AwardBIOS CMOS Setup Utility Standard CMOS Features		
Date (mm:dd:yy)	Thu, Jan 8 2004	Item Help
Time (hh:mm:ss)	15 : 36 : 53	Menu Level ►
► IDE Primary Master	[None]	Change the day, month, year and century.
► IDE Primary Slave	[None]	
► IDE Secondary Master	[None]	
► IDE Secondary Slave	[None]	
Drive A	[1.44M, 3.5 in.]	
Drive B	[None]	
Floppy 3 Mode Support	[Disabled]	
Video	[EGA/VGA]	
Halt On	[All Errors]	
Base Memory	640K	
Extended Memory	1014784K	
Total Memory	1015808K	
↑↓→← : Move Enter : Select +/-/PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

- **Date**

  This field specifies the current date. The date format is <month>, <day>, and <year>.

- **Time**

  This field specifies the current time. The time format is <hour>, <minute>, and <second>.

  The time is calculated based on the 24-hour (military-time) clock.

- **IDE Primary Master / Primary Slave / Secondary Master / Secondary Slave**

  Press “Enter” to enter next page for detail hard drive setting.

  1. IDE HDD Auto-Detection : [Press Enter]

     To auto-detect the HDD’s size, and its parameters, ex : Cylinder, Head and Sector.

  2. IDE Primary Master / Primary Slave / Secondary Master / Secondary Slave

     This field specifies type of drive that corresponds to the drive installed in your system.

     If you select User, please specify the correct number of Cylinders, Heads, and Sectors.

Manual	Selecting annual lets you set the remaining fields on this screen. Selects the type of fixed disk.
Auto (Default Value)	BIOS automatically fills in the values for the cylinders, heads and sectors fields.
None	Any Disk Drives are attached

3. Access MODE

This field specifies the IDE translation mode.

CHS (Normal)	Specifies traditional CHS addressing mode.
LARGE	Specifies extended CHS translation mode.
LBA	Specifies LBA translation mode
AUTO (Default Value)	BIOS specifies translation method automatically

4. Capacity Auto Display you disk drive size.

5. Cylinders : Set the number of cylinders for this hard disk.

6. Head : Set the number of read/write heads.

7. Precomp : Set the value = 0.

8. Landing Zone : Set the value = cylinders number - 1

9. Sector : Set the number of sectors per track.

■ Drive A / Drive B

This field specifies the traditional type of floppy drives

None (Drive B default)	Any Floppy drive is connected
360K, 5.25 in	Specifies extended CHS translation mode
1.2M, 5.25 in	A 1.2M floppy drive is connected
720K, 3.5 in	A 720K floppy drive is connected
1.44M, 3.5 in (Default)	A 1.44M floppy drive is connected
2.88M, 3.5 in	A 2.88M floppy drive is connected

- **Floppy 3 Mode Support (for Japan Area)**

This field specifies the traditional type of floppy drives

Disabled (Default)	Normal floppy drive.
Drive A	Enable drive A is 3 mode floppy drive.
Drive B	Enable drive B is 3 mode floppy drive.
Both	Enable drive A & B are 3 mode floppy drives.

- **Video**

EGA/VGA (Default)	Specifies EGA or VGA adapter
CGA 40	Specifies CGA adapter with 40 column mode
CGA 80	Specifies CGA adapter with 80 column mode
MONO	Specifies Monochrome adapter

- **Halt On**

All Errors	Each time the BIOS detects a non-fatal error, the system will stop and display an error message
No Errors	The system will stop for any errors that are detected
All, But Keyboard (Default)	The system will stop for any errors except keyboard error
All, But Diskette	The system will stop for any errors except diskette error
All, But Disk/Key	The system will stop for any errors except diskette and key board errors.

- **Base Memory**

The POST (Power On Self Test) determines the amount of base (conventional) memory installed in the system. The value of the base memory is typically 640K. This field has no options.

- **Extended Memory**

The BIOS determines how much extended memory is present during the POST. This is the amount of memory located above 1MB in the processor's memory address map. This field has no options.

- **Total Memory**

Displays the total memory available in the system.

4.5 Advanced BIOS Features

Phoenix - AwardBIOS CMOS Setup Utility Advanced BIOS Features		
Virus Warning	[Disabled]	Item Help
CPU L1 & L2 Cache	[Enabled]	Menu Level ►
CPU L2 Cache ECC Checking	[Enabled]	Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep.
Quick Power On Self Test	[Enabled]	
First Boot Device	[Floppy]	
Second Boot Device	[HDD-0]	
Third Boot Device	[LS120]	
Boot Other Device	[Enabled]	
Swap Floppy Seek	[Disabled]	
Boot Up Floppy Seek	[Disabled]	
Boot Up NumLock Status	[On]	
Gate A20 Option	[Fast]	
Typematic Rate Setting	[Disabled]	
Typematic Rate (Chars/Sec)	6	
Typematic Delay (Msec)	250	
Security Option	[Setup]	
APIC Mode	[Enabled]	
MPS Version Control For OS	[1.4]	
OS Select For DRAM > 64MB	[Non-OS2]	
HDD S.M.A.R.T. Capability	[Disabled]	
Video BIOS Shadow	[Enabled]	
Small Logo(EPA) Show	[Disabled]	
↑↓→← : Move Enter : Select +/-/PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

- **Virus Warning**

  When this function is enabled, the BIOS monitor the boot sector and partition table of the hard disk drive for any attempt at modification. If an attempt is made, the BIOS will halt the system and then display an error message.

Afterwards, if necessary, you can run and anti-virus program to locate and remove the problem before any damage is done. Many disk diagnostic programs will attempt to access the boot sector table, which can cause the above warning message. If you run such a program, we recommend that you first disable the Virus Warning function beforehand.

Enabled, Disabled (default)

- **CPU L1 & L2 Cache**

  This field configures the CPU internal cache (L1 & L2 cache)

  Enabled (default), Disabled

- **CPU L2 cache ECC Checking**

  This field specifies whether the CPU L2 cache supports ECC or not.

  Enabled (default), Disabled

- **Quick Power On Self Test**

  This field allows the system to skip certain tests while booting.

  This will decrease the time needed to boot the system

  Enabled (default), Disabled.

- **First / Secondary / Third Boot Device**

  The BIOS attempts to load the operating system from the devices in the sequence selected in these items.

  Floppy, LS120, HDD-0, SCSI, CDROM, HDD-1, HDD-2, HDD-3, ZIP100, USB-FDD, USB-ZIP, USB-CDROM, USB-HDD, LAN, Disabled.

- **Boot Other Device**

  Enabled (default), Disabled

- **Swap Floppy Drive**

  When enabled, floppy drives A and B will be exchanged without the user physically changing the connection on the cable.

  Enabled, Disabled (default)

- **Boot Up Floppy Seek**

  Seeks disk drives during boot up. Disabling speeds boot up.

  Enabled, Disabled (default)

- **Boot Up NumLock Status**

  This field determines the configuration of the numeric keypad after system boot up. If On, the keypad uses numbers keys. If Off, the keypad uses arrow keys.

  On (default), Off

- **Gate A20 Option**

  This field configures how the gate A20 is handled. The gate A20 is a device used to address memory above 1MB. At first, the gate A20 was handled from a pin on the keyboard. While some keyboards still provide this support, it is more common, and much faster, for modern system chipsets to provide support for gate A20.

  Fast (default) : Gate A20 signal supported by core logic.

  Normal :Gate A20 signal supported by keyboard controller.

- **Typematic Rate Setting**

  This field determines if the typematic rate is to be used. When enabled, the BIOS will report (after a moment) that the key has been depressed repeatedly. When disabled, the BIOS will report only once if a key is held down continuously. This feature is used to accelerate cursor movements using the arrow keys.

  Enabled, Disabled (default)

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

  When Typematic Rate Setting enabled, this field specifies how many characters will be displayed in one second when a key is held down continuously.

  6 (default), 8, 10, 12, 15, 20, 24, 30

- **Typematic Delay (Msec)**

  When enabled, Typematic delay allows you to select the time delay between when the key is first pressed and when the acceleration begins.

  250msec (default), 500msec, 750msec, 1000msec

- **Security Option**

  This field configures how the system security is handled. It works conjunction with SETTING SUPERVISOR / USER PASSWORD page to control the security level of the system.

  Setup (default) : System needs a password to enter BIOS setup program.

  System : System needs a password to boot.

- **APIC Mode**

  Enabled (default), Disabled.

- **MPS Version Control For OS**

  [1.1], [1.4] (default)

- **OS Select for DRAM > 64MB**

  When enabled, this field allows you to access the memory that is over 64MB under OS/2

  OS2, Non-OS2 (default)

- **HDD S.M.A.R.T. Capability**

  Enabled, Disabled (default)

- **Report No FDD for WIN95**

  No (default), Yes.

- **Video BIOS Shadow**

  Enabled (default) : Map the VGA BIOS to system RAM.

  Disabled : Don't map the VGA BIOS to system RAM.

- **Small Logo(EPA) Show**

  Enabled : if you want to show your logo, please enabled it.

  Disabled (default) : When this item disabled, logo(EPA) will not show on screen.

4.6 Advanced Chipset Features

This setup page is used to specify advanced features available through the chipset. The default setting have been chosen carefully for most operating conditions. DO NOT change the value of any field in this setup page without full understanding.

Phoenix - AwardBIOS CMOS Setup Utility Advanced Chipset Features		
► DRAM Clock/Timing Control	[Press Enter]	Item Help
► AGP & P2P Bridge Control	[Press Enter]	Menu Level ►
System BIOS Cacheable	[Enabled]	
Video RAM Cacheable	[Enabled]	
Memory Hole at 15M-16M	[Disabled]	
► OnChip AGP Control	[Press Enter]	
↑↓→← : Move Enter : Select +/-/PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

- **DRAM Clock/Timing Control**

  Current CPU Frequency 100MHz (auto detect)

  Current DRAM Frequency 166MHz (auto detect)

  Performance Mode Disabled (default), Enabled

  DRAM Frequency [By SPD] (default), 100MHz, 133MHz, 166MHz, 200MHz

  DRAM CAS Latency [2.5T] (default), 2T, 3T

- **AGP & P2P Bridge Control**

  AGP Aperture Size 64M (default), 32M, 128M, 256M, 512M

  Graphic Windows WR Combin Disabled (default), Enabled

  AGP Fast Write Support Enabled (default), Disabled

  AGP Data Rate Auto (default), 4X, 8X

- **System BIOS Cacheable**

  Enabled (default), Disabled

- **Video RAM Cacheable**

  Enabled (default), Disabled

- **Memory Hole at 15M-16M**

  Disabled (default), Enabled

- **OnChip AGP Control**

VGA Share Memory Size	32MB (default), 16MB, 64MB, 128MB
Hot Key Support	Disabled (default), Enabled
OSD support	Disabled (default), Enabled
Display Logo While Post	Disabled (default), Enabled
Display Device Setting	Disabled (default), Enabled
- Enabled :	
Display Device	CRT1, CRT1+LCD, CRT1+TV, CRT1+CRT2.
TV Device Select	None, Composite TV, S-Video TV, SCART, Hi-Vision TV, YPbPr.
LCD Setting	Disabled (default), Enabled
- Enabled :	
LCD Display Type	Full Screen, Center Screen.
LCD Panel Resolution	1024 x 768, 1280 x 1024, 1400 x 1050, 1688 x 806, 1600 x 1200, 1408 x 806.
TV Setting	Disabled (default), Enabled
- Enabled :	
TV Display Mode	NTSC, NTSC-J, PAL, PAL-M, PAL-N.
TV Display Type	Under Scan, Over Scan.
YPbPr	525i, 525p,750p,1080i.

4.7 Integrated Peripherals

Phoenix - AwardBIOS CMOS Setup Utility Integrated Peripherals		
SIS OnChip IDE Device	[Press Enter]	Item Help
SIS OnChip PCI Device	[Press Enter]	Menu Level ►
Onboard SuperIO Device	[Press Enter]	
IDE HDD Block mode	[Enabled]	
Init Display First	[PCI Slot]	
IDECH0 Access Interface	[EDB Bus]	
IDECH1 Access Interface	[EDB Bus]	
USB0 Access Interface	[EDB Bus]	
USB1 Access Interface	[EDB Bus]	
USB2.0 Access Interface	[EDB Bus]	
MAC Access Interface	[EDB Bus]	
Audio Access Interface	[EDB Bus]	
↑↓→← : Move Enter : Select +/-/PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

- **SIS OnChip IDE Device**

  Internal PCI/IDE — Both (default), Disabled, Primary, Secondary.

  IDE Primary/Secondary & Master/Slave PIO — Auto (default), Mode 0,1,2,3,4

PIO Mode 0	3.3 MB/sec
PIO Mode 1	5.2 MB/sec
PIO Mode 2	8.3 MB/sec
PIO Mode 3	11 MB/sec
PIO Mode 4	16.6MB/sec

  Primary Master UltraDMA — Auto (default), Disabled

  Primary Slave UltraDMA — Auto (default), Disabled

  Secondary Master UltraDMA — Auto (default), Disabled

  Senondary Slave UltraDMA — Auto (default), Disabled

  IDE Burst Mode — Enabled (default), Disabled

- **SIS OnChip PCI Device**

  SIS USB Controller — Enabled (default), Disabled

  USB 2.0 Supports — Enabled (default), Disabled

USB Keyboard Support Enabled (default), Disabled

USB Mouse Support Enabled (default), Disabled

SIS AC97 AUDIO Enabled (default), Disabled

SIS S/W Modem Disabled (default), Enabled

SIS 10/100M ETHERNET Disabled (default), Enabled

- Enabled

  SIS MAC Address Input [Press Enter]

  Enter MAC Address :

■ Onboard Super IO Device

Onboard FDC Controller Enabled (default), Disabled

Onboard Serial Port 1 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Auto, Disabled.

Onboard Serial Port 2 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Auto, Disabled.

UART Mode Select Normal (default), IrDA, ASKIR.

- IrDA / ASKIR

  RxD, TxD Active Hi, Lo / Hi, Hi / Lo, Hi / Lo, Lo.

- IR Transmission Delay Enabled, Disabled.

- UR2 Duplex Mode Half, Full

- Use IR Pins IR-Rx2Tx2, RxD2, TxD2.

- Onboard Parallel Port 378/IRQ7, Disabled, 278/IRQ5, 3BC/IRQ7.

- Parallel Port Mode SPP, EPP, ECP, ECP+EPP, Normal.

  -EPP EPP Mode Select EPP1.7 / EPP1.9

  -ECP ECP Mode Use DMA 3, 1

  -ECP+EPP EPP Mode Select EPP1.7 / EPP1.9

  ECP Mode Use DMA 3, 1

- Game Port Address 201, 209, Disabled.

- Midi Port Address 330, 300, 290, Disabled.

- Midi Port IRQ 10, 5

■ IDE HDD Block Mode

When enabled, the IDE controller will use the faster block mode access devices.

Enabled (default), Disabled

■ Init Display First

This item allows you to decide which slot to activate first, either PCI slot or AGP slot.

PCI Slot (default), AGP

- **IDECH0 / IDECH1 / USB0 / USB1 / USB2.0 / MAC / Audio Access Interface**

  EDB Bus (default), PCI Bus.

4.8 Power Management Setup

Phoenix - AwardBIOS CMOS Setup Utility Power Management Setup		
ACPI function	[Enabled]	Item Help
ACPI Suspend Type	[S3(STR)]	Menu Level ►
Power Management	[User Define]	
Suspend Mode	[Disabled]	
Video off Option	[Susp, Stby -> Off]	
Video off Method	[DPMS Supported]	
Switch Function	[Break/Wake]	
MODEM Use IRQ	[Auto]	
Hot Key Function As	[Power Off]	
HDD Off After	[Disabled]	
Power Button Override	[Instant Off]	
►PM Wake Up Events	[Press Enter]	
Delay Prior to Thermal	[None]	
↑↓→← : Move Enter : Select +/-/PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

Each power-saving mode has a respective timer. The value of the timer can be assigned or reloaded and it will count down to zero. When the timer equals to zero, the system will be forced into the related suspend or power-saving mode. If any predefined signal or event is detected during the timer counting period, the timer restarts automatically.

- **ACPI function :** Enabled (default), Disabled

- **ACPI Suspend Type :**

There are several ACPI modes used to save computer's energy.

S1 (POS)	This is the Power-On-State, the CPU clock runs at slower speed, the system operates at slower speed.
S3 (STR) (default)	This is the Suspend-To-Ram State, all system data will be saved in systems memory and all devices except the memory will shut off **(Please checking your VGA card, can support the S3 mode)**
S1 & S3	Both.

- **Power Management :**

This feature allows the user to select the default parameters for the power-saving mode

Min Saving.	When idle for one hour, the system enter suspend mode
Max Saving	When idle for fifteen minutes, the system enters suspend mode
User Define (default)	User can specify the time the system enters suspend mode.

- **Suspend Mode :**

Disabled (default), 1 Min / 2 Min / 4 Min / 8 Min / 12 Min / 20Min / 30Min / 40Min / 1 Hour.

- **Video Off Option :** Susp, Stby -> Off (default), Suspend -> Off, All Modes -> Off, Always On,

- **Video Off Method :**

V/H SYNC+Blank	Turn off the vertical and horizontal synchronization ports and write blanks to the video buffer
Blank Screen	Writes blanks to the video buffer only.
DPMS Supported (default)	Initial display power management signaling with DPMS

- **Switch Function :**

Break/Wake (default), Disabled.

- **MODEM Use IRQ :**

This determines the IRQ in which the MODEM can use.

Auto (default),3, 4, 5, 7, 9, 10, 11.

- **Hot Key Function As :**

Power Off (default), Suspend, Disable.

- **HDD Off After :**

Disabled (default), 1~15 Min.

- **Power Button Override :**

  This field specifies the function of power button

Instant-Off (default)	When power button pressed, the system turns off immediately
Delay 4 Sec	After the power button has been pressed and held for four seconds, the system turns off

- **PM Wake Up Events :** [Press Enter]

  These items determines when the system will be wake up.

  IRQ [3-7, 9-15], NMI Enabled, Disabled.

  IRQ 8 Break Suspend Disabled, Enabled.

  RING Power Up Control Enabled, Disabled.

  MACPME Power Up Control Enabled, Disabled.

  PCIPME Power Up Control Enabled, Disabled.

  PS2KB Wakeup from S3/S4/S5 [Password] (Input Password)

  x PS2KB Wakeup from S3/S4/S5 Disabled.

  Power Up by Alarm Disabled (default), Enabled

  - Enabled :

    Month Alarm NA, 1~12.

    Day of Month Alarm 0~31.

    Time (hh:mm:ss) Alarm 0~23 : 0~59 : 0~59

  ** Reload Global Timer Events **

  Primary IDE / Secondary IDE / FDD, COM, LPT Port / PCI PIRQ[A-D]#

  Disabled (default), Enabled.

- **Delay Prior to Thermal :**

  None, 1 / 2 / 4 / 8 / 16 / 32 / 64 Min.

4.9 PnP / PCI Configurations

Phoenix - AwardBIOS CMOS Setup Utility PnP / PCI Configurations		
Reset Configuration Data	[Disabled]	Item Help
Resources Controlled By	[Auto (ESCD)]	Menu Level ►
► IRQ Resources	[Press Enter]	Select Yes if are using a Plug and Play capable operating system
PCI/VGA Palette Snoop	[Disabled]	Select No if you need the BIOS to configure non-boot devices
↑↓→← : Move Enter : Select +/-/PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

- **Reset Configuration Data**

  Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system can not boot.

  Enabled, Disabled (default)

- **Resources Controlled By**

  The Award Plug and play BIOS has the capacity to automatically configure all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows 98/95/NT. If you set this field to “manual” choose specific resources by going into each of the sub menu that follows this field.

Manual	Resources controlled by the user.
Auto (ESCD) (default)	Resources controlled by BIOS automatically

- **IRQ Resources :** Press Enter

  IRQ3, 4, 5, 7, 9, 10, 11, 12, 14, 15 assigned to PCI Device or Reserved.

- **PCI /VGA Palette Snoop**

  This field controls the ability of a primary PCI graphics controller to share a common palette with an ISA/VESA video or MPEG card.

Enabled	PCI VGA co-works with ISA MPEG card
Disabled (default)	All cases except above

4.10 PC Health Status

This page is monitoring your status of computer. On the screen displays CPU/System temperature, FAN speed, and voltages.

Phoenix - AwardBIOS CMOS Setup Utility PC Health Status		
CPU Warning Temperature	[Disabled]	Item Help
Current System Temp.	35˚C/ 95˚F	Menu Level ►
Current CPU1 Temp	0˚C/32˚F	
Current CPUFAN1 Speed	3068 RPM	
Current CPUFAN2 Speed	0 RPM	
Vcore	1.42V	
+3.3V	3.44V	
+ 5V	5.05V	
+12V	12.16V	
-12V	-11.70V	
VBAT(V)	3.07V	
5VSB(V)	5.59V	
Shutdown Temperature	[Disabled]	
↑↓→← : Move Enter : Select +/-/PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

CPU Warning Temperature :

Disabled, 50˚C/122˚F, 53˚C/127˚F, 56˚C/133˚F, 60˚C/140˚F, 63˚C/145˚F, 66˚C/151˚F, 70˚C/158˚F.

Shutdown Temperature :

Disabled, 60˚C/140˚F, 65˚C/149˚F, 70˚C/158˚F, 75˚C/167˚F

4.11 Frequency/Voltage Control

Phoenix - AwardBIOS CMOS Setup Utility Frequency/Voltage Control		
Auto Detect DIMM/PCI Clk	[Enabled]	Item Help
Spread Spectrum	[Disabled]	Menu Level ►
CPU Host/PCI Clock	[Default]	
↑↓→← : Move Enter : Select +/-/PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

- **Auto Detect DIMM/PCI Clk :** Enabled (default), Disabled

- **Spread Spectrum :** Disabled (default), Enabled.

- **CPU Host/PCI Clock :**

  Default (Auto detecting and setting current CPU & PCI clock),

  100 MHz, 133MHz, 200MHz.

4.12 Load Fail-Safe Defaults

When you press <Enter> on this item you get a confirmation dialog box with a message similar to : Pressing “Y” loads the BIOS default values for the appropriate of the system parameters that allow minimum system performance..

4.13 Load Optimized Defaults

When you press <Enter> on this item you get a confirmation dialog box with a message similar to : Pressing “Y” loads the BIOS default values for the most Optimize, maximum-performance system operations.

4.14 Set Password

These setup pages are used for password setting. When a password has been enabled and the Security Option field is set as Setup, you will be required to enter the password every time you try to enter BIOS Setup program. This prevents an unauthorized person from changing any part of your system configuration. Additionally, if the Security Option field is set as Boot, the BIOS will request a password every time your system boot. This would prevent unauthorized use of your computer.

In you wish to use this function, bring the cursor to this field, then press <Enter>. The computer will display the message, “Enter Password”. Type your password and press <Enter>. After the message on firm Password” is displayed, re-type your password. The Supervisor Password function will be in effect after you save an exit setup.

To disable a password, bring the cursor to this field, then press <Enter>. The computer will display the message, “Enter Password”. Press <Enter>. A message will confirm that the password is disabled. Once the password is disabled, the system will boot and you can enter setup program freely.

4.15 Save & Exit Setup

Saves current CMOS value and exit BIOS setup program.

4.16 Exit Without Saving

Abandons all CMOS value changes and exits BIOS setup program.