When you installing AGP card, please make sure the following notice is fully understood and practiced. If your AGP card has "AGP 4X/8X (1.5V) notch"(show below), please make sure your AGP card is AGP 4X/8X.

Caution: AGP2X card is not supported by Intel® 845(GE/PE) / 845(E/G) / 850(E) / E7205 / 865(G/PE/P) / 875P. You might experience system unable to boot up normally. Please insert an AGP Pro 4X/8X card.

Example 1: Diamond Vipper V770 golden finger is compatible with 2X/4X mode AGP slot. It can be switched between AGP 2X(3.3V) or 4X(1.5V) mode by adjusting the jumper. The factory default for this card is 2X(3.3V).
The GA-8IKHDW(or any AGP Pro 4X/8X only) motherboards might not function properly, if you install this card without switching the jumper to 4X (1.5V) mode in it.

Example 2: Some ATi Rage 128 Pro graphics cards made by "Power Color", the graphics card manufacturer & some SiS 305 cards, their golden finger is compatible with 2X(3.3V) / 4X(1.5V) mode AGP slot, but they support 2X(3.3V) only. The GA-8KNXP Ultra-64 (or any AGP Pro 4X/8X only) motherboards might not function properly, If you install this card in it.

Note : Although Gigabyte's AG32S(G) graphics card is based on ATi Rage 128 Pro chip, the design of AG32S(G) is compliance with AGP 4X(1.5V) specification. Therefore, AG32S(G) will work fine with Intel® 845(GE/PE) / 845(E/G) / 850(E) / E7205 / 865(G/PE/P) / 875P based motherboards.

- The author assumes no responsibility for any errors or omissions that may appear in this document nor does the author make a commitment to update the information contained herein.
- Third-party brands and names are the property of their respective owners.
- Please do not remove any labels on motherboard, this may void the warranty of this motherboard.
- Due to rapid change in technology, some of the specifications might be out of date before publication of this booklet.

WARNING: Never run the processor without the heatsink properly and firmly attached. PERMANENT DAMAGE WILL RESULT!

Mise en garde : Ne faites jamais tourner le processeur sans que le dissipateur de chaleur soit fix correctement et fermement. UN DOMMAGE PERMANENT EN RÉSULTERA!

Achtung: Der Prozessor darf nur in Betrieb genommen werden, wenn der Wärmeableiter ordnungsgemäß und fest angebracht ist. DIES HAT EINEN PERMANENTEN SCHADEN ZUR FOLGE!

Advertencia: Nunca haga funcionar el procesador sin el disipador de calor instalado correcta y firmemente. ¡SE PRODUCIRÁ UN DAÑO PERMANENTE!

Aviso: Nunca execute o processador sem o dissipador de calor estar adequado e firmemente conectado. O RESULTADO SERÁ UM DANO PERMANENTE!

[illegible]

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[illegible]

[illegible]

Declaration of Conformity

We, Manufacturer/Importer
(full address)

G.B.T. Technology Träding GMbH
AusschlagerWeg 41,1F, 20537 Hamburg, Germany

declare that the product
(description of the apparatus, system, installation to which it refers)

Mother Board
GA-8IKHDW
is in conformity with
(reference to the specification under which conformity is declared)
in accordance with 89/336 EEC-EMC Directive

☐ **EN 55011**	Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM high frequency equipment	☐ **EN 61000-3-2*** ☒ **EN 60555-2**	Disturbances in supply systems cause by household appliances and similar electrical equipment "Harmonics"
☐ **EN 55013**	Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment	☐ **EN 61000-3-3*** ☒ **EN 60555-3**	Disturbances in supply systems cause by household appliances and similar electrical equipment "Voltage fluctuations"
☐ **EN 55014**	Limits and methods of measurement of radio disturbance characteristics of household electrical appliances, portable tools and similar electrical apparatus	☒ **EN 50081-1** ☒ **EN 50082-1**	Generic emission standard Part 1: Residual commercialand light industry Genericimmunity standard Part 1: Residual commercialand light industry
☐ **EN 55015**	Limits and methods of measurement of radio disturbance characteristics of fluorescent lamps and luminaries	☐ **EN 55081-2**	Generic emission standard Part 2: Industrialenvironment
☐ **EN 55020**	Immunity from radio interference of broadcast receivers and associated equipment	☐ **EN 55082-2**	Generic emission standard Part 2: Industrialenvironment
☒ **EN 55022**	Limits and methods of measurement of radio disturbance characteristics of information technology equipment	☐ **ENV 55104**	Immunity requirements for household appliances tools and similar apparatus
☐ **DIN VDE 0855** ☐ **part 10** ☐ **part 12**	Cabled distribution systems; Equipment for receiving and/or **distribution** from sound and television signals	☐ **EN50091-2**	EMC requirements for uninterruptible powersystems(UPS)
☒ **CEmarking**		(EC conformity marking)	

The manufacturer also declaes the conformity of abovementioned product with the actual required safety standards in accordance with LVD 73/23EEC

☐ **EN 60065**	Safety requirements for mains operated electronic and related apparatus for household and similar general use	☐ **EN 60950**	Safety for information technology equipment including electricalbussiness equipment
☐ **EN 60335**	Safety of household and similar electrical appliances	☐ **EN 50091-1**	General and Safety requirements for uninterruptible power systems(UPS)

Manufacturer/Importer

(Stamp)

Date: Mar. 12, 2004

Signature: Timmy Huang
Name: Timmy Huang

DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2.1077(a)

Responsible Party Name: G.B.T. INC. (U.S.A.)

Address: 17358 Railroad Street
City of Industry, CA 91748

Phone/Fax No: (818) 854-9338/(818) 854-9339

hereby declares that the product

Product Name: Motherboard
Model Number: GA-8IKHDW

Conforms to the following specifications:

FCC Part 15, Subpart B, Section 15.107(a) and Section 15.109(a), Class B Digital Device

Supplementary Information:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful and (2)this device must accept any inference received, including that may cause undesired operation.

Representative Person's Name: ERIC LU

Signature: Eric Lu

Date: Mar. 12, 2004

GA-8IKHDW

Dual Intel Xeon Workstation board

USER'S MANUAL

Dual Intel Xeon Workstation board
Rev. 1001
12ME-8IKHDW-1001

English

Table of Content

English

English

Item Checklist

- ☑ The GA-8IKHDW motherboard
- ☑ IDE cable x 1 / Floppy cable x 1
- ☑ Driver CD for motherboard driver & utility
- ☑ GA-8IKHDW user's manual
- ☑ North bridge Fan
- ☑ I/O Back Panel
- ☑ 1394 cable x 1
- ☑ Audio cable x 1
- ☑ Retention Modules

Warning

Computer motherboards 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 your 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 came 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.

Chapter 1 Introduction

Features Summary

CPU	• Socket 603/604 for Intel® Xeon processor with HT Technology • Intel® Xeon 533/400MHz FSB • 2nd/3rd cache depends on CPU
Chipset	• North Bridge: Intel® 875P • South Bridge: Intel® HR
Memory	• 4 184-pin DDR DIMM sockets • Supports Dual Channel DDR333/DDR266 DIMM • Supports 64MB/128MB/256MB/512MB/1GB unbuffered DRAM • Supports up to 4GB DRAM (Max) (Note 1) • Supports only 2.5V DDR DIMM • Supports 64bit ECC/non-ECC type DRAM integrity mode • All standard 128Mb/256Mb/512Mb technologies and addressing are supported for x16 and x8 devices.
Slots	• 1 AGP pro slot supports 8X/4X(1.5V) mode • 3 PCI slots support • 2 64-Bit / 66MHz PCI-X slots
On-Board IDE	• 2 IDE bus master (UDMA33/ATA66/ATA100) IDE ports for up to 4 ATAPI devices • Can connect up to 4 IDE devices
On-Board Floppy	• 1 Floppy port supports 2 FDD with 360K, 720K,1.2M, 1.44M and 2.88M bytes
On-Board Peripherals	• 1 Parallel port supports Normal/EPP/ECP mode • 2 Serial ports (COMA & COMB) • 4 USB 2.0/1.1 ports (4 x Rear) • 1 IrDA connector for IR/CIR • 1 Front Audio connector
On-Board LAN	• Builit in Intel® 82547 (KENAI II CSA) Chipset Data transfer rate 10/100/1000 supported • 1 RJ45 port

to be continued.....

English

On-Board Sound	• Realtek ALC658 UAJ CODEC • Support Jack-Sensing • Line Out / 2 front speaker • Line In / 2 rear speaker(by s/w switch) • Mic In / center& subwoofer(by s/w switch) • SPDIF Out /SPDIF In • CD_In • Surround Back speaker (by optional Surround-Kit)
SerialATA	• Controlled by HR - 2 SerialATA connectors (SATA0_SB/SATA1_SB) in 150 MB/s operation mode
Hardware Monitor	• CPU1/ CPU2/ 3 System fan revolution detect • CPU1/ CPU2/ System temperature detect • CPU warning temperature • Case open detect • System voltage detect
On-Board SATA RAID	• Built in HR - Supports Disk striping (RAID0) or mirroring (RAID 1) - Supports UDMA up to 150 MB/sec - Up to 2 SATA devices - Only supports Linux, Windows 2000/XP
I/O Control	• ITE8712F
PS/2 Connector	• PS/2 Keyboard interface and PS/2 Mouse interface
BIOS	• Licensed AWARD BIOS
Additional Features	• External Modem wake up • STR(Suspend-To-RAM) • Wake on LAN (WOL) • AC Recovery
Form Factor	• 31.5cm x 24.4cm ATX size form factor, 6 layers PCB

to be continued.....

"*" 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® Xeon Processor with HT Technology
- Chipset: An Intel® Chipset that supports HT Technology
- BIOS: A BIOS that supports HT Technology and has it enabled
- OS: An operation system that has optimizations for HT Technology

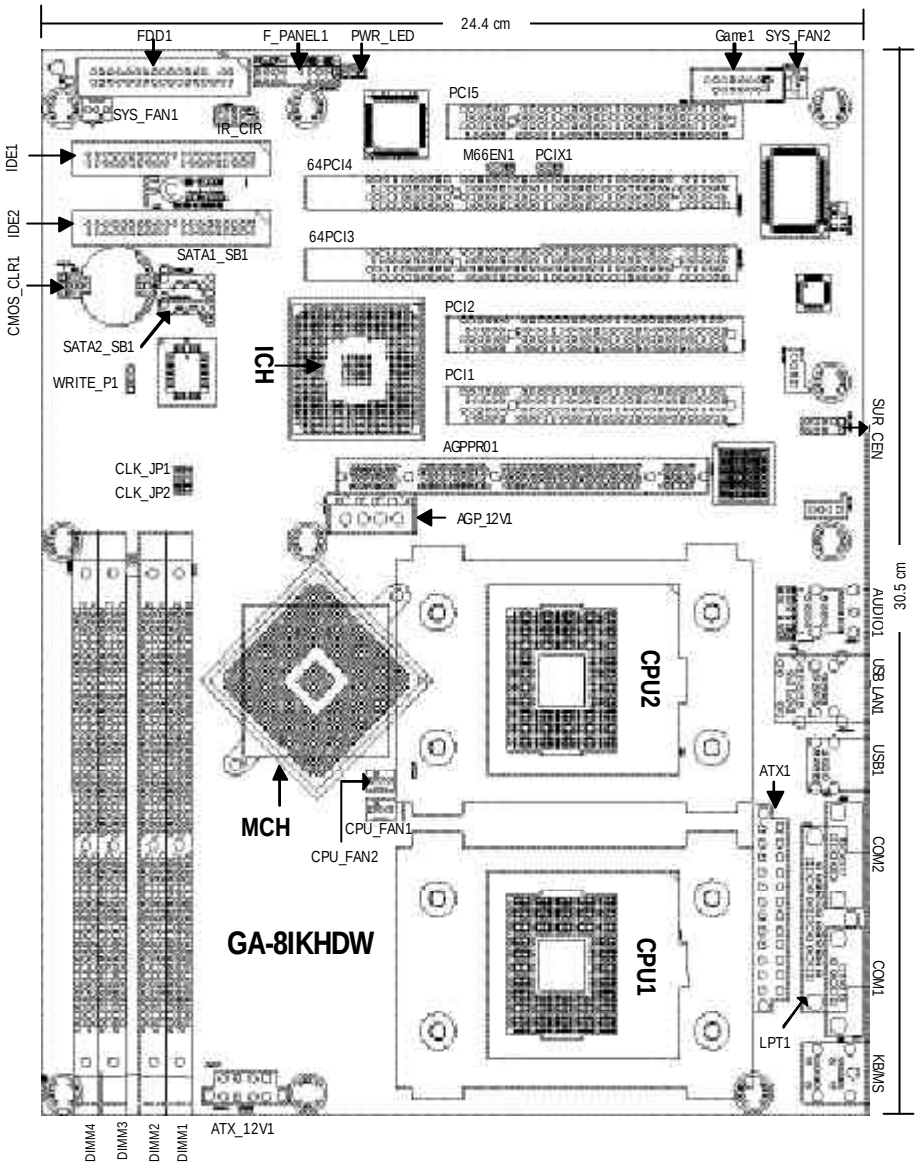
Please set the CPU host frequency in accordance with your processor's specifications.
We don't recommend you to set the system bus frequency over the CPU's specification because these specific bus frequencies are not the standard specifications for CPU, chipset and most of the peripherals. Whether your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

Due to chipset (Intel 875P) architecture limitation, a FSB 533 Xeon processor will support DDR333 and DDR266 memory module. A FSB 400 Xeon processor will only support DDR 266 memory module.

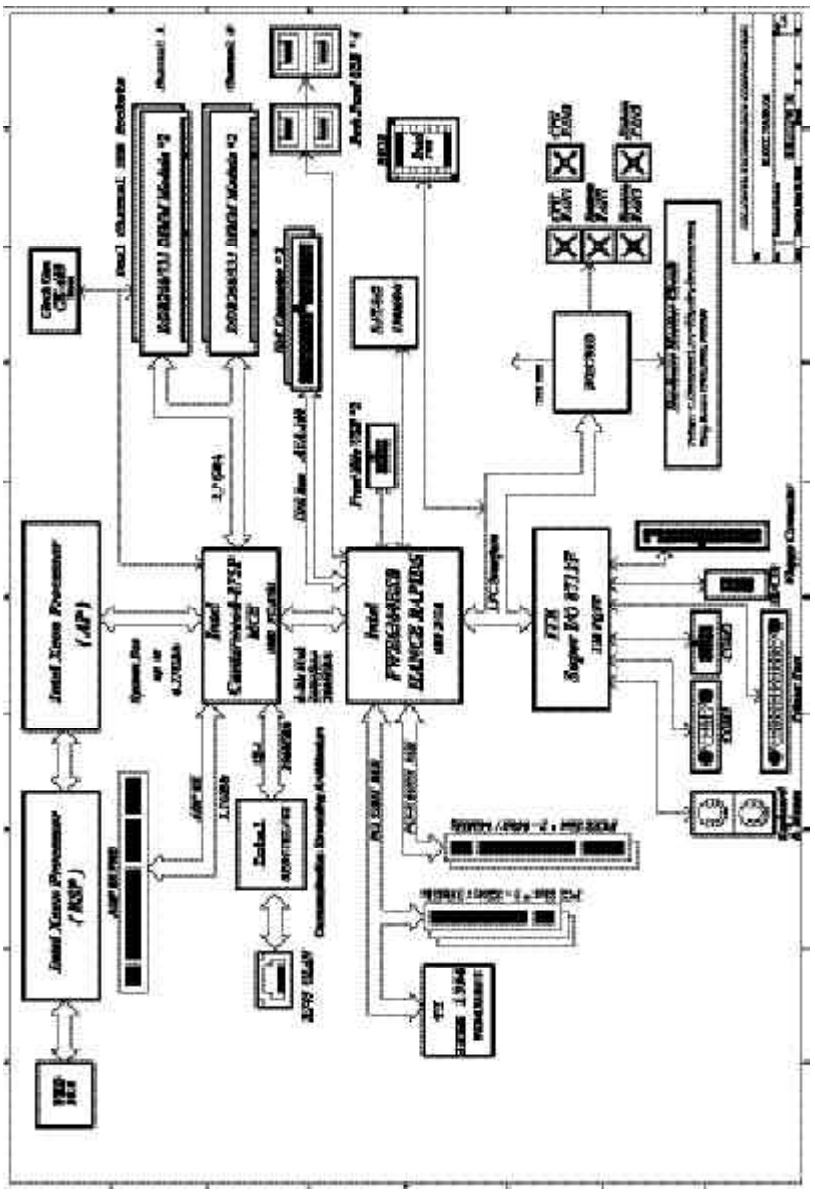
(Note 1) Due to standard PC architecture, a certain amount of memory is reserved for system usage and therefore the actual memory size is less than the stated amount. For example, 4 GB of memory size will instead be shown as 3.xxGB memory during system startup.

English

GA-8IKHDW Motherboard Layout



Block Diagram



English

Chapter 2 Hardware Installation Process

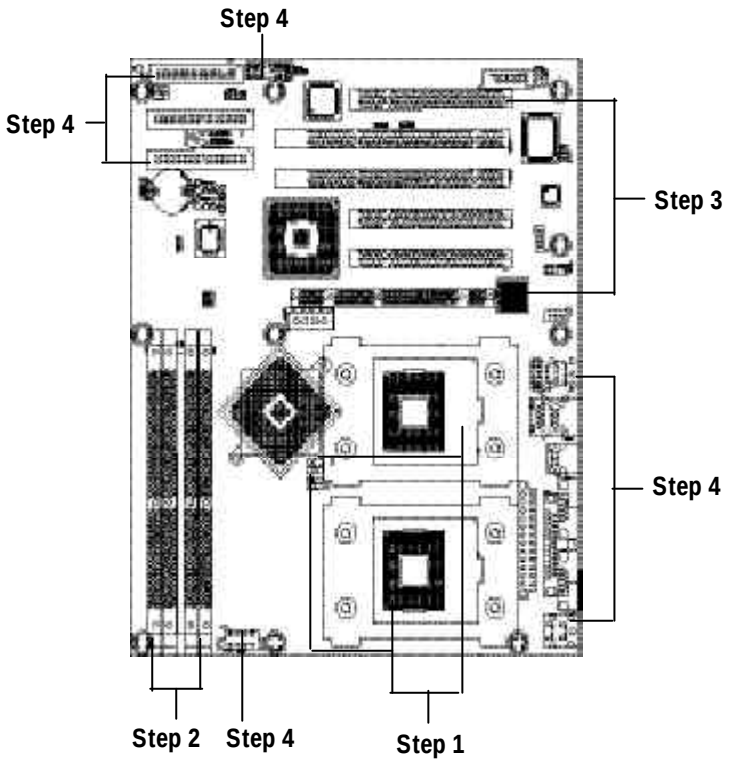
To set up your computer, you must complete the following steps:

Step 1- Install the Central Processing Unit (CPU)

Step 2- Install memory modules

Step 3- Install expansion cards

Step 4- Install I/O Peripherals Cables



Congratulations! You have accomplished the hardware installation!

Turn on the power supply or connect the power cable to the power outlet. Continue with the BIOS/software installation.

English

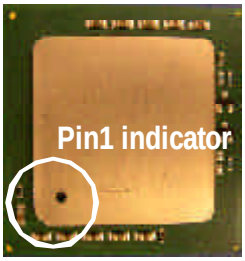
Step 1: Install the Central Processing Unit (CPU)

Before installing the processor, adhere to the following warning:

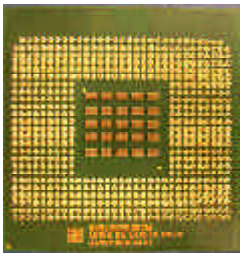
1. Please make sure the CPU type is supported by the motherboard.

2. 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.

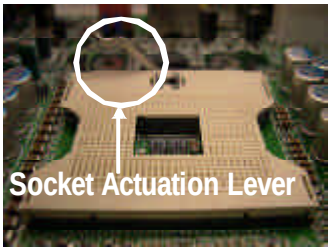
Step 1-1: CPU Installation



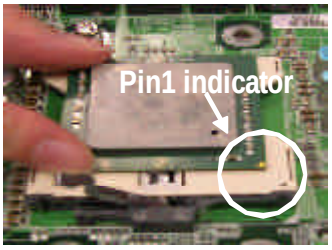
CPU Top View



CPU Bottom View



1. Pull the lever out, than lift up the Lever.



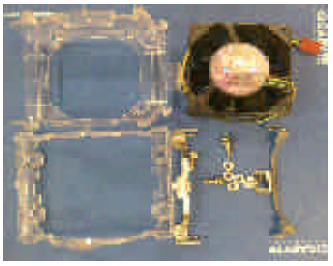
2. Locate Pin 1 in the socket and look for a (golden) cut edge on the CPU upper corner. Then insert the CPU into the socket.
3. Press down the CPU socket lever and finish CPU installation.

English

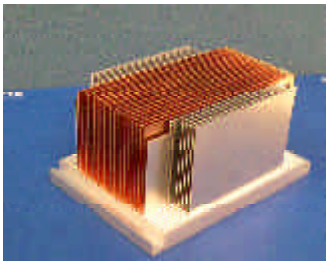
Step 1-2: CPU Cooling Fan Installation

Before installing the CPU cooling fan, adhere to the following warning:

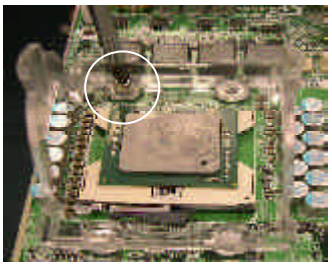
1. **Please use Intel approved cooling fan.**
2. **We recommend you to apply the thermal tape to provide better heat conduction between your CPU and cooling fan.**
   (The CPU cooling fan might stick to the CPU due to the hardening of the thermal paste. During this condition if you try to remove the cooling fan, you might pull the processor out of the CPU socket alone with the cooling fan, and might damage the processor. To avoid this from happening, we suggest you to either use thermal tape instead of thermal paste, or remove the cooling fan with extreme caution.)
3. **Make sure the CPU fan power cable is plugged in to the CPU fan connector, this completes the installation.**
   Please refer to CPU cooling fan user's manual for more detail installation procedure.



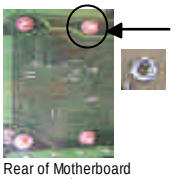
Use qualified fan approved by Intel.

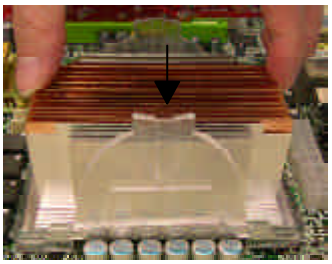


Heat Sink

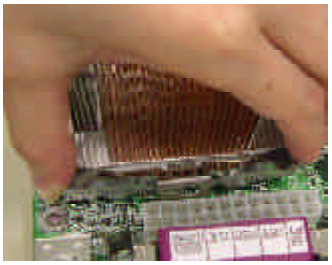


Step1. Place the heatsink retention mechanism over the CPU socket, and seat it with the four screws.

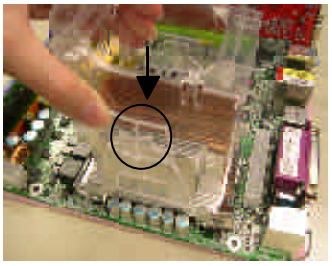




Step2. Put the heatsink on the CPU.



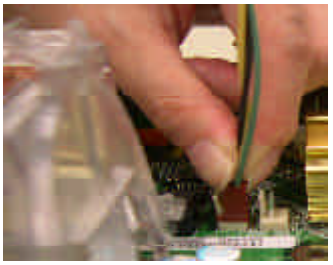
Step3. Hook the cooler bracket to the CPU socket .



Step4. Seat the air tunnel over the heatsink. And please align and insert the side rails of the air tunnel into the grooves of the retention mechanism.

English

Step5. Fan assembly.

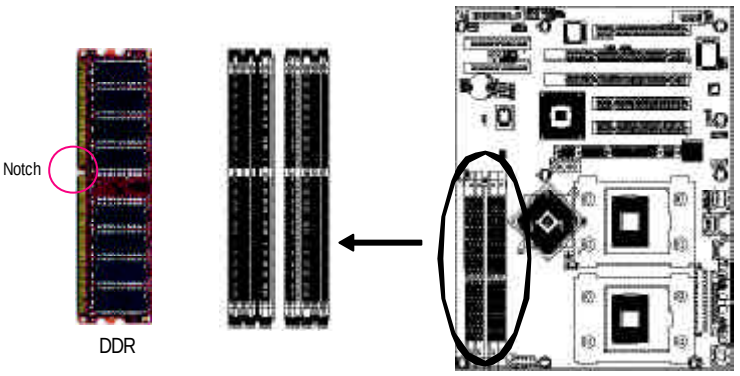


Step6. Make sure the CPU fan connector, then install complete.

Step 2: Install Memory Modules

Before installing the memory modules, adhere to the following warning:
1. When RAM_LED is ON, do not install / remove DIMM from socket.
2. Please note that the DIMM module can only fit in one direction due to the one notch. Wrong orientation will cause improper installation. Please change the insert orientation.

The motherboard has 6 dual inline memory module (DIMM) sockets. The BIOS will automatically detects memory type and size. To install the memory module, just push it vertically into the DIMM socket. The DIMM module can only fit in one direction due to the notch. Memory size can vary between sockets.



1. The DIMM socket has a notch, so the DIMM memory module can only fit in one direction.

2. Insert the DIMM memory module vertically into the DIMM socket. Then push it down.

3. Close the plastic clip at both edges of the DIMM sockets to lock the DIMM module.
   Reverse the installation steps when you wish to remove the DIMM module.

English

DDR Introduction

Established on the existing SDRAM infrastructure, DDR (Double Data Rate) memory is a high performance and cost-effective solution that allows easy adoption for memory vendors, OEMs, and system integrators.

DDR memory is a great evolutionary solution for the PC industry that builds on the existing SDRAM architecture, yet make the awesome advances in solving the system performance bottleneck by doubling the memory bandwidth. Nowadays, with the highest bandwidth of 2.7GB/s of DDR333 memory and complete line of DDR333/266 memory solutions, DDR memory is the best choice for building high performance and low latency DRAM subsystem that are suitable for servers, workstations, and full range of desktop PCs.

Dual Channel DDR:

GA-8IKHDW supports Dual Channel Technology.

When Dual Channel Technology is activated, the bandwidth of memory bus will be double the original one,with the fastest speed at 2.7GB/s DDR333.

GA-8IKHDW includes four DIMM slots, and each Channel has 2 DIMMs as following:

- Channel A : DIMM 1, 2
- Channel B : DIMM 3, 4

Below are the explanations:

1. One or three DDR memory modules are installed: The Dual Channel Mode will not operate when one or three DDR memory modules are installed and they will only work as Single Channel Mode.
2. Two DDR memory modules are installed (the same memory size and type): The Dual Channel Mode will operate when two DDR memory modules are inserted individually into Channel A and Channel B (DIMM 1 pairs up with DIMM 3, DIMM 2 and DIMM 4). However, if the two DDR memory modules are inserted into the same Channel (DIMM 1,2 or DIMM 3,4) then Dual Channel Mode will not operate.
3. If four DDR memory modules are installed (two pairs of DDR memory modules with the same memory size and type) will function in dual-channel mode.
4. DIMMs installed into odd sockets will function in single-channel mode.

The following tables include all memory-installed combination types:
(Please note that those types not in the tables will not boot up.)

- Figure 1: Recommand memory configuration for Single Channel Mode

	Channel A		Channel B	
	DIMM1 (Orange)	DIMM2 (Purple)	DIMM3 (Orange)	DIMM4 (Purple)
1 Modules	DS/SS			
		DS/SS		
			DS/SS	
				DS/SS
2 Modules	DS/SS	DS/SS		
			DS/SS	DS/SS

Note: (DS: Double Side, SS: Single Side)

- Figure 2: Recommand memory configuration for Dual Channel Mode

	Channel A		Channel B	
	DIMM1 (Orange)	DIMM2 (Purple)	DIMM3 (Orange)	DIMM4 (Purple)
2 Modules	DS/SS		DS/SS	
		DS/SS		DS/SS
4 Modules	DS/SS	DS/SS	DS/SS	DS/SS

Note: (DS: Double Side, SS: Single Side)

For dual channel configuration:

1. Install identical DIMM modules pair in DIMM 1, 3 or DIMM 2, 4
2. Install identical DIMM modules in all four sockets.

- Figure 3: CPU FSB frequency / memory frequency synchronization

CPU FSB	Host Clock	DRAM Clock	DDR Data Rate	DDR Type	Peak Bandwidth
400	100	133MHz	266MT/s	PC2100	2.1GB/s
533	133	133/166MHz	266/333MT/s	PC2100/2700	2.1/2.7GB/s

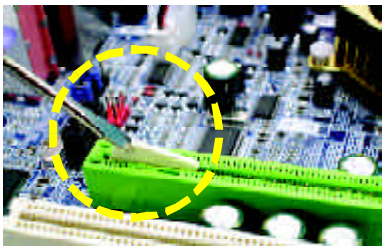
Important Note:
Mixed mode DDR DS-DIMMs (x8 and x16 on same DIMM) are not supported.

English

Step 3: Install expansion cards

1. Read the related expansion card's instruction document before install the expansion card into the computer.
2. Remove your computer's chassis cover, screws and slot bracket from the computer.
3. Press the expansion card firmly into expansion slot in motherboard.
4. Be sure the metal contacts on the card are indeed seated in the slot.
5. Replace the screw to secure the slot bracket of the expansion card.
6. Replace your computer's chassis cover.
7. Power on the computer, if necessary, setup BIOS utility of expansion card from BIOS.
8. Install related driver from the operating system.

Please align the AGP card to the onboard AGP PRO slot and press firmly down on the slot.



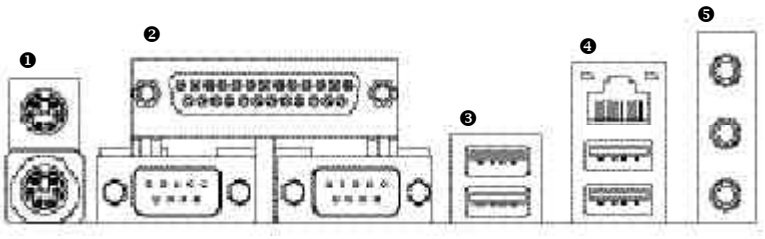
If you are installing a AGP PRO graphic card, please remove the protecting plate first.

When an AGP 2x (3.3V) card is installed the 2X_DET will light up, indicating a non-supported graphics card is inserted. Informing users that system might not boot up normally due to AGP 2x (3.3V) is not supported by the chipset.

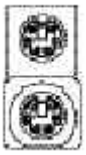
English

Step 4: Install I/O Peripherals Cables

Step 4-1: I/O Back Panel Introduction



❶ PS/2 Keyboard and PS/2 Mouse Connector



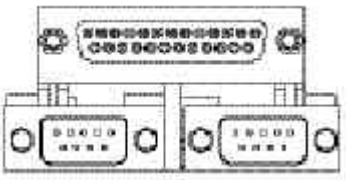
PS/2 Mouse Connector
(6 pin Female)

PS/2 Keyboard Connector
(6 pin Female)

- This connector supports standard PS/2 keyboard and PS/2 mouse.

❷ Parallel Port, Serial Port and VGA Port (LPT/COMA/COMB)

Parallel Port
(25 pin Female)



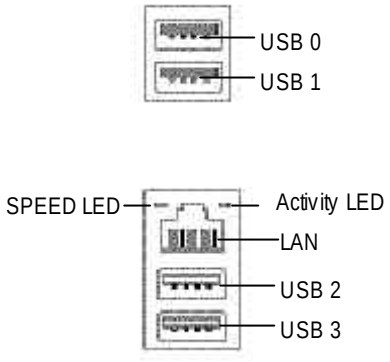
COMA COMB

Serial Port (9 pin Male)

- This connector supports 2 standard COM ports and 1 Parallel port. Device like printer can be connected to Parallel port; mouse and modem etc can be connected to Serial ports.

English

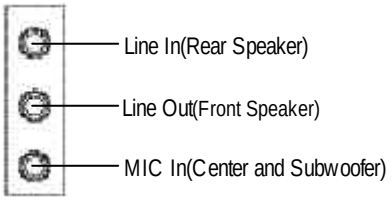
❸/❹ USB / LAN Connector



- LAN is fast Ethernet with 10/100/1000 Mbps speed.
- Before you connect your device(s) into USB connector(s), please make sure your device(s) such as USB keyboard,mouse, scanner, zip, speaker..etc. Have a standard USB interface. Also make sure your OS supports USB controller.
  If your OS does not support USB controller, please contact OS vendor for possible patch or driver upgrade. For more information please contact your OS or device(s) vendors.

LAN LED Indicator	Activity	Speed	
	Yellow	Green	Orange
10Mbit		OFF	OFF
100Mbit		ON	OFF
1000Mbit		OFF	ON
Cable Link	ON		
Active	Blinking		

❺ Audio Connectors



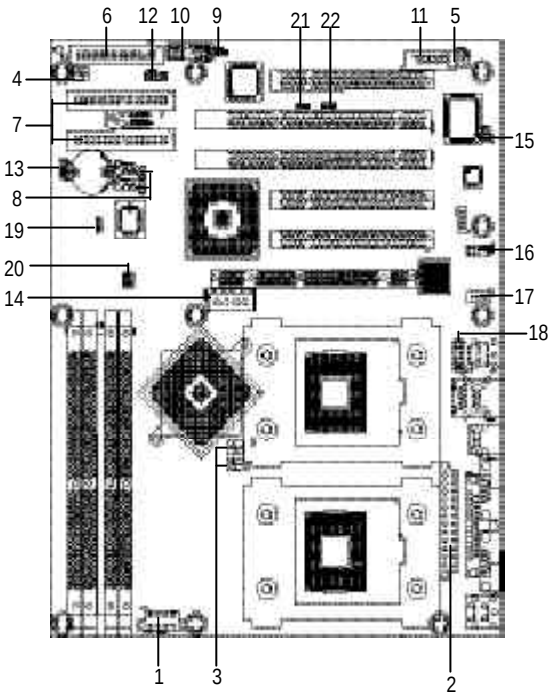
- After install onboard audio driver, you may connect speaker to Line Out jack, microphone to MIC In jack. Devices like CD-ROM, walkman etc. can be connected to Line-In jack.

  Please note:

  You are able to use 2-/4-/6-channel audio feature by S/W selection.

  If you want to enable 8-channel function you can refer to page 30, and contact your nearest dealer for optional SUR_CEN cable.

Step 4-2: Connectors Introduction

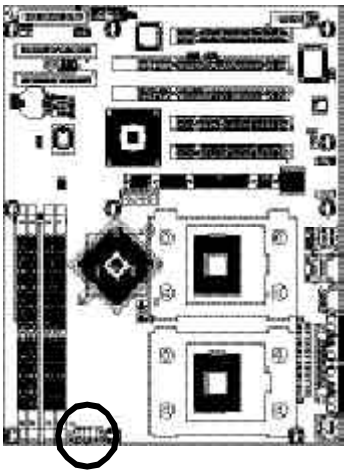


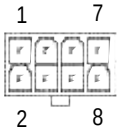
1) ATX12V1	12) IR_CIR1
2) ATX1	13) CMOS_CLR1
3) CPU_FAN1 / CPU_FAN2	14) AGP_12V1
4) SYS_FAN1	15) SPDIF_IO1
5) SYS_FAN2	16) SUR_CEN1
6) FDD1	17) CD_IN1
7) IDE1 / IDE2	18) F_AUDIO1
8) SATA1_SB1 / SATA2_SB1	19) WRITE_P1
9) PWR_LED1	20) CLK_JP1/ CLK_JP2
10) F_PANEL1	21) M66EN1
11) Game1	22) PCIX1

English

1) ATX12V1 (+12V Power Connector)

This connector (ATX12V1) supplies the CPU operation voltage (Vcore).
If this "ATX12V1 connector" is not connected, system cannot boot.

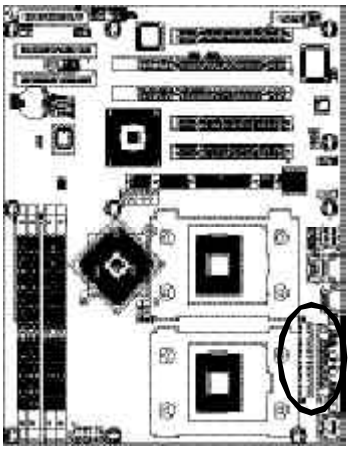


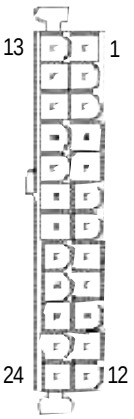


Pin No.	Definition
1	GND
2	+12V
3	GND
4	+12V
5	GND
6	+12V
7	GND
8	+12V

2) ATX1 (ATX Power)

AC power cord should only be connected to your power supply unit after ATX power cable and other related devices are firmly connected to the mainboard.

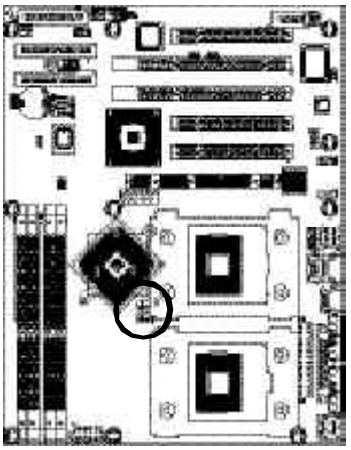




Pin No.	Definition
1	3.3V
2	3.3V
3	GND
4	VCC
5	GND
6	VCC
7	GND
8	Power Good
9	5V SB (stand by +5V)
10	+12V
11	+12V
12	3.3V
13	3.3V
14	-12V
15	GND
16	PS_ON(soft on/off)
17	GND
18	GND
19	GND
20	-5V
21	VCC
22	VCC
23	VCC
24	GND

3) CPU_FAN1/2 (CPU Fan Connector)

Please note, a proper installation of the CPU cooler is essential to prevent the CPU from running under abnormal condition or damaged by overheating. The CPU fan connector supports Max. current up to 600 mA.

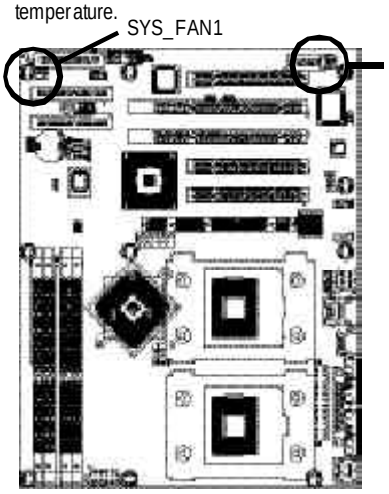


1

Pin No.	Definition
1	GND
2	+12V
3	Sense

4/5)SYS_FAN1/2 (System Fan Connector)

This connector allows you to link with the cooling fan on the system case to lower the system temperature.



1

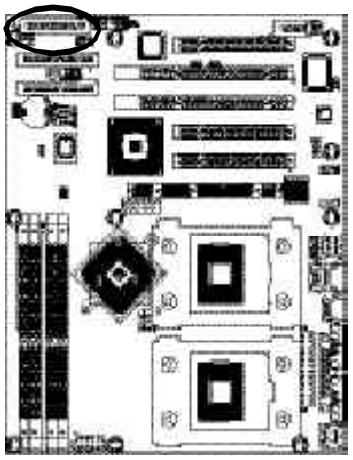
Pin No.	Definition
1	GND
2	+12V
3	Sense

English

6) FDD1 (Floppy Connector)

Please connect the floppy drive 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.

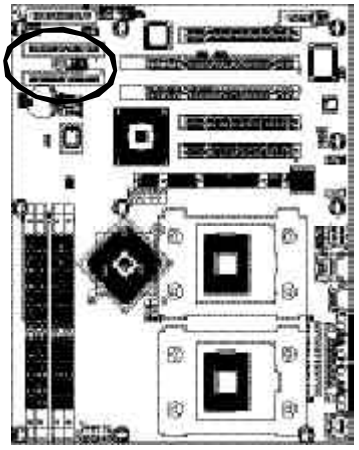


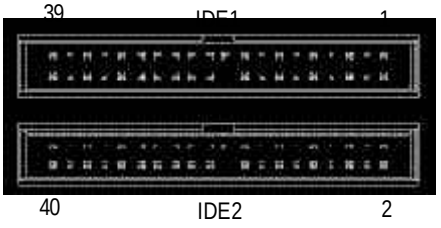
7) IDE1 / IDE2 (IDE1 / IDE2 Connector)

Important Notice:

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

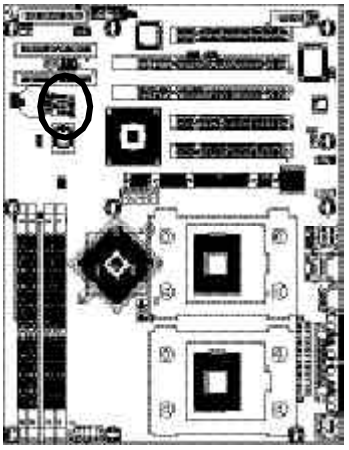
The red stripe of the ribbon cable must be the same side with the Pin1.

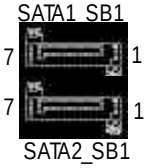




8) SATA1_SB1 / SATA2_SB1 (Serial ATA Connector)

You can connect the Serial ATA device to this connector, it provides you high speed transfer rates (150MB/sec). If you wish to use RAID function, please note that these two Serial ATA connectors just support RAID 0 or RAID 1 and only compatible with Win 2000/XP.

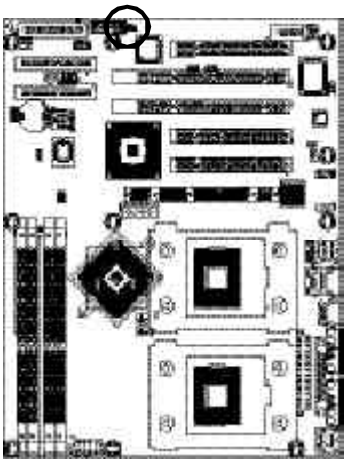




Pin No.	Definition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

9) PWR_LED1

PWR_LED is connect with the system power indicator to indicate whether the system is on/off. It will blink when the system enters suspend mode. If you use dual color LED, power LED will turn to another color.

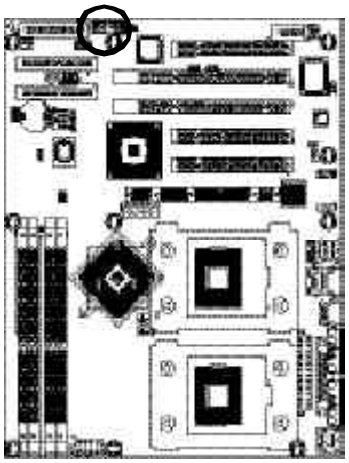


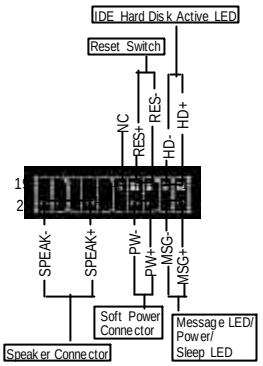
Pin No.	Definition
1	MPD+
2	MPD-
3	MPD-

English

10) F_PANEL1 (2 x 10 pins Connector)

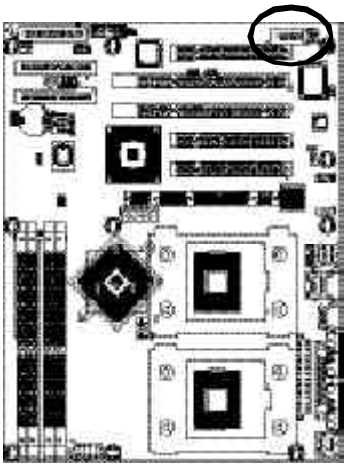
Please connect the power LED, PC speaker, reset switch and power switch etc. of your chassis front panel to the F_PANEL connector according to the pin assignment below.





HD (IDE Hard Disk Active LED) (Blue)	Pin 1: LED anode(+) Pin 2: LED cathode(-)
SPEAK (Speaker Connector) (Amber)	Pin 1: VCC(+) Pin 2- Pin 3: NC Pin 4: Data(-)
RES (Reset Switch) (Green)	Open: Normal Operation Close: Reset Hardware System
PW (Soft Power Connector) (Red)	Open: Normal Operation Close: Power On/Off
MSG(Message LED/ Power/ Sleep LED) (Yellow)	Pin 1: LED anode(+) Pin 2: LED cathode(-)
NC (Purple)	NC

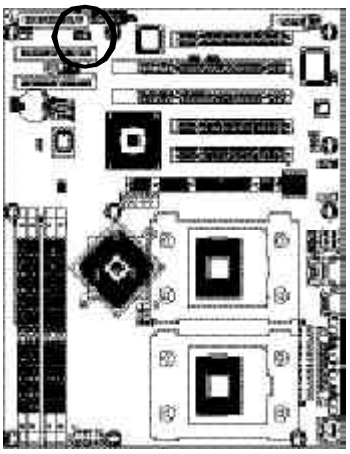
11) Game1

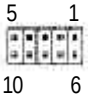


Pin No.	Definition
1	VCC
2	GPX1
3	GND
4	GPSA2
5	VCC
6	GPX2
7	GPY2
8	MSI
9	GPSA1
10	GND
11	GPY1
12	VCC
13	GPSB1
14	MSO
15	GPSB2
16	Key

12) IR_CIR1

Make sure the pin 1 on the IR device is aling with pin one the connector. To enable the IR/CIR function on the board, you are required to purchase an option IR/CIR module. To use IR function only, please connect IR module to Pin1 to Pin5. Be careful with the polarity of the IR/CIR connector. Check the pin assignment carefully while you connect the IR/CIR cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional IR/CIR cable, please contact your local dealer.



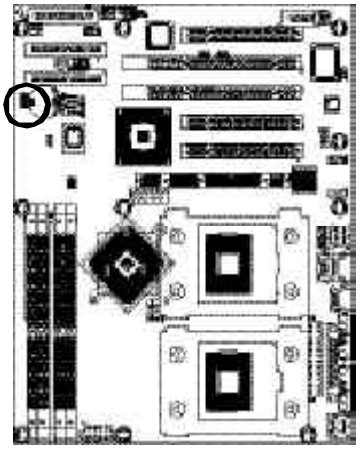


Pin No.	Definition
1	VCC
2	NC
3	IRRX
4	GND
5	IRTX
6	NC
7	CIRRX
8	+5VSB
9	CIRTX
10	NC

English

13) CMOS_CLR1 (Clear CMOS)

You may clear the CMOS data to its default values by this jumper. To clear CMOS, temporarily shor 1-2 pin. Default doesn't include the "Shunter" to prevent from improper use this jumper.

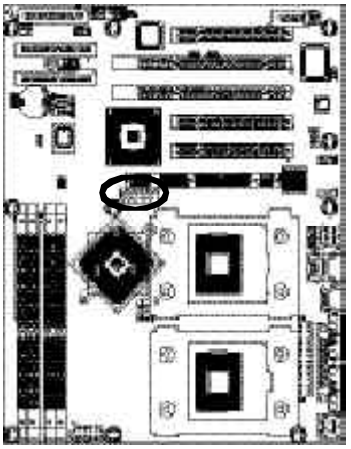


2-3 close: Normal

1-2 close: Clear CMOS

14) AGP_12V1

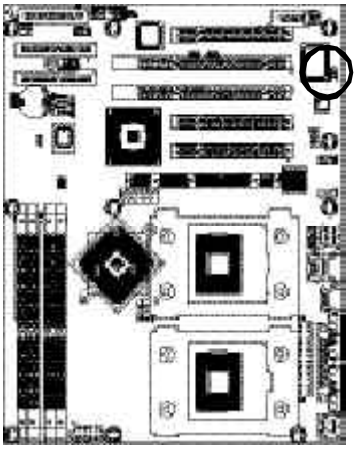
You should inserted one 4P power connector to AGP_12V1 for the power delivery of AGP Pro Card.



Pin No.	Definition
1	VCC
2	GND
3	GND
4	+12V

15) SPDIF_IO1 (SPDIF In/Out Connector)

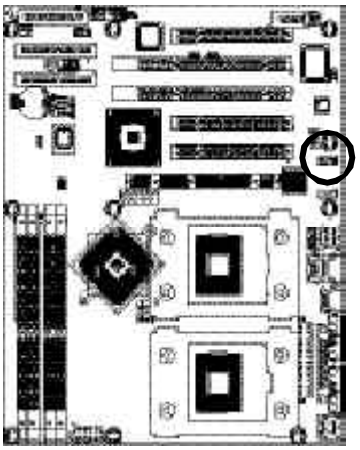
The SPDIF output is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby Digital Decoder. Use this feature only when your stereo system has digital input function. Be careful with the polarity of the SPDIF_IO connector. Check the pin assignment carefully while you connect the SPDIF cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional SPDIF cable, please contact your local dealer.



Pin No.	Definition
1	VCC
2	No Pin
3	SPDIF
4	SPDIFI
5	GND
6	GND

16) SUR_CEN1 (Surround Center Connector)

Please contact your nearest dealer for optional SUR_CEN cable.

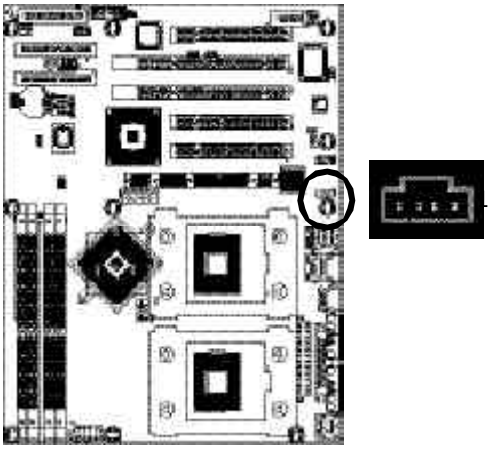


Pin No.	Definition
1	SUR OUTL
2	SUR OUTR
3	GND
4	No Pin
5	CENTER_OUT
6	LFE_OUT
7	AUX_L
8	AUX_R
9	JD5
10	AVDD

English

17) CD_IN1 (CD In Connector)

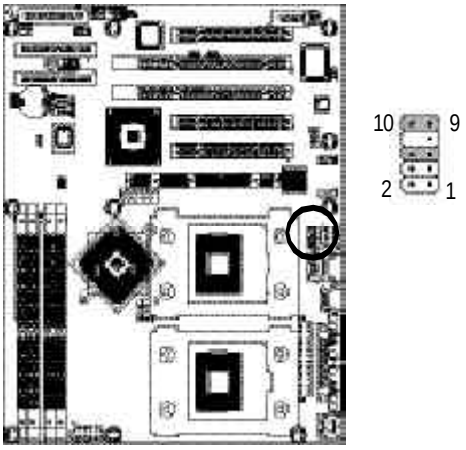
Connect CD-ROM or DVD-ROM audio out to the connector.



Pin No.	Definition
1	CD-L
2	GND
3	GND
4	CD-R

18) F_AUDIO1 (Front Audio Connector)

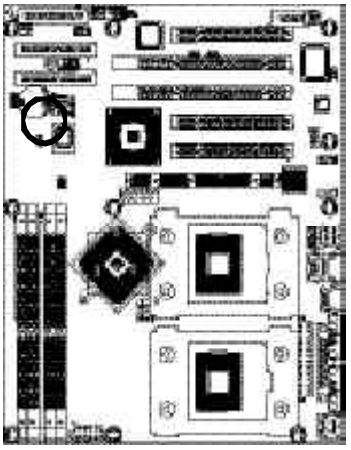
If you want to use Front Audio connector, you must remove 5-6, 9-10 Jumper.
In order to utilize the front audio header, your chassis must have front audio connector. Also please make sure the pin assigment on the cable is the same as the pin assigment on the MB header. To find out if the chassis you are buying support front audio connector, please contact your dealer. Please note, you can have the alternative of using front audio connector or of using rear audio connector to play sound.



Pin No.	Definition
1	MIC
2	GND
3	REF
4	Power
5	Front Audio (R)
6	Rear Audio (R)
7	Reserved
8	No Pin
9	Front Audio (L)
10	Rear Audio (L)

English

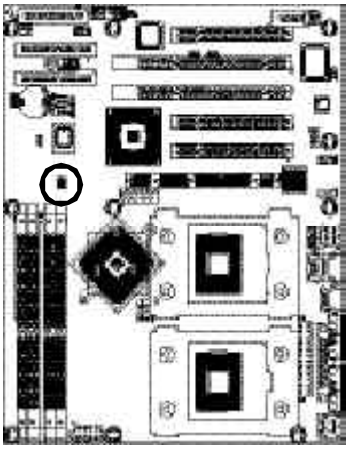
19) WRITE_P1



1-2 close: Normal

2-3 close: Write Protect

20) CLK_JP1/CLK_JP2

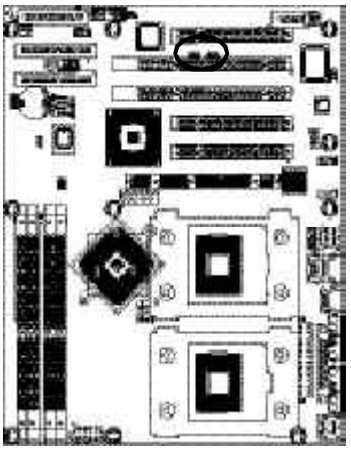


CLK_JP1 CLK_JP2

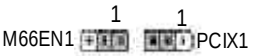
CLK_JP1	CLK_JP2	FSB
1-2	1-2	Auto
2-3	NC	533MHz
NC	NC	400MHz

English

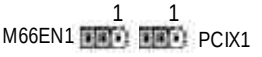
21/22) M66EN1/ PCIX1



M66EN1	PCIX1	Function
1-2 close	1-2 close	PCI-X 64/66 Mode



M66EN1	PCIX1	Function
1-2 close	2-3 close	PCI 64/66 Mode



M66EN1	PCIX1	Function
2-3 close	2-3 close	PCI 32/33 Mode

Chapter 3 BIOS Setup

BIOS Setup is an overview of the BIOS Setup Program. The program that allows users to modify the basic system configuration. This type of information is stored in battery-backed CMOS RAM so that it retains the Setup information when the power is turned off.

ENTERING SETUP

Powering ON the computer and pressing <Del> immediately will allow you to enter Setup. If you require more advanced BIOS settings, please go to "Advanced BIOS" setting menu. To enter Advanced BIOS setting menu, press "Ctrl+F1" key on the BIOS screen.

CONTROL KEYS

<↑>	Move to previous item
<↓>	Move to next item
<←>	Move to the item in the left hand
<→>	Move to the item in the right hand
Enter	Select item
<Esc>	Main Menu - Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu - Exit current page and return to Main Menu
<+/PgUp>	Increase the numeric value or make changes
<-/PgDn>	Decrease the numeric value or make changes
<F1>	General help, only for Status Page Setup Menu and Option Page Setup Menu
<F2>	Item Help
<F3>	Reserved
<F4>	Reserved
<F5>	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
<F6>	Load the file-safe default CMOS value from BIOS default table
<F7>	Load the Optimized Defaults
<F8>	Dual BIOS/Q-Flash function
<F9>	System Information
<F10>	Save all the CMOS changes, only for Main Menu

English

GETTING HELP

Main Menu

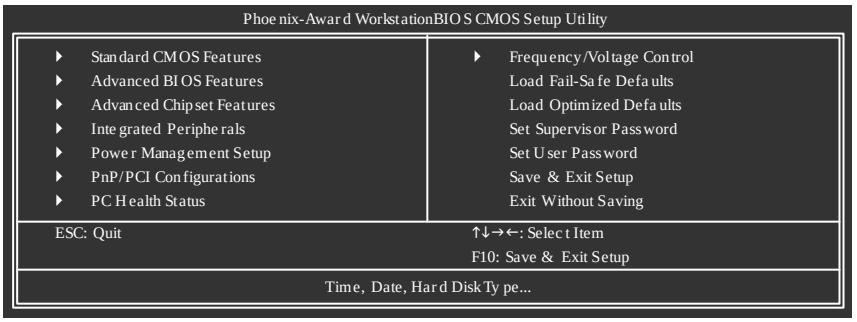
The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu / Option Page Setup Menu

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc>.

The Main Menu (For example: BIOS Ver. : D4)

Once you enter Award BIOS CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from eight setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.



If you can't find the setting you want, please press "Ctrl+F1" to search the advanced option widden.

- **Standard CMOS Features**

  This setup page includes all the items in standard compatible BIOS.

- **Advanced BIOS Features**

  This setup page includes all the items of Award special enhanced features.

- **Advanced Chipset Features**

  This setup page includes all the items of chipset special features.

- **Integrated Peripherals**

  This setup page includes all onboard peripherals.

- **Power Management Setup**

  This setup page includes all the items of Green function features.

- **PnP/PCI Configurations**

  This setup page includes all the configurations of PCI & PnP ISA resources.

- **PC Health Status**

  This setup page is the System auto detect Temperature, voltage, fan, speed.

- **Frequency/Voltage Control**

  This setup page is control CPU's clock and frequency ratio.

- **Load Fail-Safe Defaults**

  Fail-Safe Defaults indicates the value of the system parameters which the system would be in safe configuration.

- **Load Optimized Defaults**

  Optimized Defaults indicates the value of the system parameters which the system would be in best performance configuration.

- **Set Supervisor password**

  Change, set, or disable password. It allows you to limit access to the system and Setup, or just to Setup.

- **Set User password**

  Change, set, or disable password. It allows you to limit access to the system.

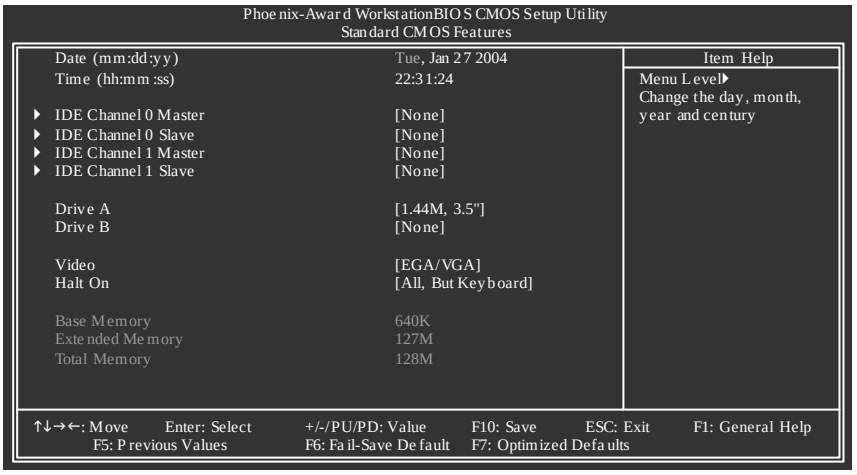
- **Save & Exit Setup**

  Save CMOS value settings to CMOS and exit setup.

- **Exit Without Saving**

  Abandon all CMOS value changes and exit setup.

Standard CMOS Features



- **Date**

  The date format is <week>, <month>, <day>, <year>.

  - Week The week, from Sun to Sat, determined by the BIOS and is display only
  - Month The month, Jan. Through Dec.
  - Day The day, from 1 to 31 (or the maximum allowed in the month)
  - Year The year, from 1999 through 2098

- **Time**

  The times format in <hour> <minute> <second>. The time is calculated base on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.

IDE Channel 0 Master, Slave / IDE Channel 1 Master, Slave

The category identifies the types of hard disk from drive C to F that has been installed in the computer. There are two types: auto type, and manual type. Manual type is user-definable; Auto type which will automatically detect HDD type.

Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category.

If you select User Type, related information will be asked to enter to the following items. Enter the information directly from the keyboard and press <Enter>. Such information should be provided in the documentation form your hard disk vendor or the system manufacturer.

- CYLS. Number of cylinders
- HEADS Number of heads
- PRECOMP Write precomp
- LANDZONE Landing zone
- SECTORS Number of sectors

If a hard disk has not been installed select NONE and press <Enter>.

Drive A / Drive B

The category identifies the types of floppy disk drive A or drive B that has been installed in the computer.

- None No floppy drive installed
- 360K, 5.25" 5.25 inch PC-type standard drive; 360K byte capacity.
- 1.2M, 5.25" 5.25 inch AT-type high-density drive; 1.2M byte capacity (3.5 inch when 3 Mode is Enabled).
- 720K, 3.5" 3.5 inch double-sided drive; 720K byte capacity
- 1.44M, 3.5" 3.5 inch double-sided drive; 1.44M byte capacity.
- 2.88M, 3.5" 3.5 inch double-sided drive; 2.88M byte capacity.

English

- **Video**
  - EGA/VGA — Set EGA/VGA mode to Video. (Default value)
  - CGA 40 — Set CGA 40 mode to Video.
  - CGA 80 — Set CGA 80 mode to Video.
  - MONO — Set MONO mode to Video.
- **Halt on**

  The category determines whether the computer will stop if an error is detected during power up.
  - NO Errors — The system boot will not stop for any error that may be detected and you will be prompted.
  - All Errors — Whenever the BIOS detects a non-fatal error the system boot will be stopped.
  - All, But Keyboard — The system boot will not stop for all errors except a keyboard error. (Default value)
  - All, But Diskette — The system boot will not stop for all errors except a disk error.
  - All, But Disk/Key — The system boot will not stop for all errors except keyboard and disk errors.
- **Memory**

  The category is display-only which is determined by POST (Power On Self Test) of the BIOS.

  Base Memory

  The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system.

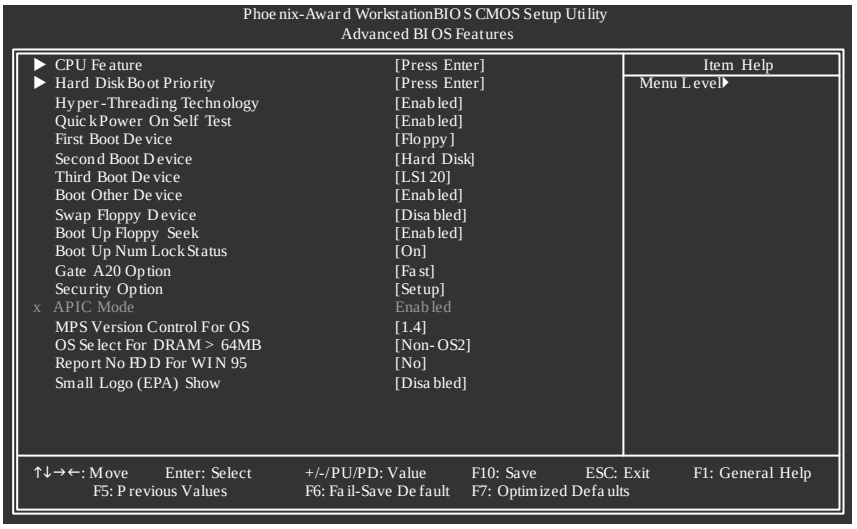
  The value of the base memory is typically 512 K for systems with 512K memory installed on the motherboard, or 640 K for systems with 640 K or more memory installed on the motherboard.

  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 CPU's memory address map.

Advanced BIOS Features



" # " System will detect automatically and show up when you install the Intel® Xeon processor with HT Technology.

CPU Feature

- Press Enter — Select thermal delay priority.

Hard Disk Boot Priority

- Press Enter — Select Hard Disk Boot Device priority.

Hyper-Threading Technology

- Enabled — Enables Hyper-Threading Technology Feature when using Windows XP and Linux 2.4x operating systems that are optimized for Hyper-Threading technology. (Default value)
- Disabled — Disables Hyper-Threading Technology when using other operating systems.

Quick Power On Self Test

This category speeds up Power On Self Test (POST) after you power on the computer. If it is set to Enable, BIOS will shorten or skip some check items during POST.

- Enabled — Enables quick POST.(Default value)
- Disabled — Normal POST.

English

First / Second / Third / Other Boot Device

This feature allows you to select the boot device priority.

Floppy	Select your boot device priority by Floppy.
LS120	Select your boot device priority by LS120.
Hard Disk	Select your boot device priority by Hard Disk.
CDROM	Select your boot device priority by CDROM.
ZIP	Select your boot device priority by ZIP.
USB-FDD	Select your boot device priority by USB-FDD.
USB-ZIP	Select your boot device priority by USB-ZIP.
USB-CDROM	Select your boot device priority by USB-CDROM.
USB-HDD	Select your boot device priority by USB-HDD.
LAN	Select your boot device priority by LAN.
Disabled	Select your boot device priority by Disabled.

Swap Floppy Drive

Enabled	Enables the Swap Floppy Drive Feature.
Disabled	Disables the Swap Floppy Drive Feature. (Default value)

Boot Up Floppy Seek

During POST, BIOS will determine the floppy disk drive installed is 40 or 80 tracks. 360K type is 40 tracks 720K, 1.2M and 1.44M are all 80 tracks.

Enabled	BIOS searches for floppy disk drive to determine it is 40 or 80 tracks. Note that BIOS can not tell from 720K, 1.2M or 1.44M drive type as they are all 80 tracks. (Default value)
Disabled	BIOS will not search for the type of floppy disk drive by track number. Note that there will not be any warning message if the drive installed is 360K.

Boot Up NumLock Status

ON	Set this option "On" to turn the NumLock On at a system boot. (Default value)
OFF	Disables this function.

Gate A20 Option

Fast	The chipset controls Gate A20. (Default value)
Normal	A pin in the keyboard controller controls Gate A20.

Security Option

Setup	The system will boot but will not access to Setup page if the correct password is not entered at the prompt. (Default value)
System	The system will not boot and will not access to Setup page if the correct password is not entered at the prompt.

MPS Version Control For OS

- 1.4 Support MPS version 1.4. (Default value)
- 1.1 Support MPS version 1.1.

OS Select For DRAM > 64MB

- OS2 Select OS2 only if you are running OS/2 operating system with greater than 64MB of RAM on the System.
- Non-OS2 Defult Value.

Report No FDD For WIN95

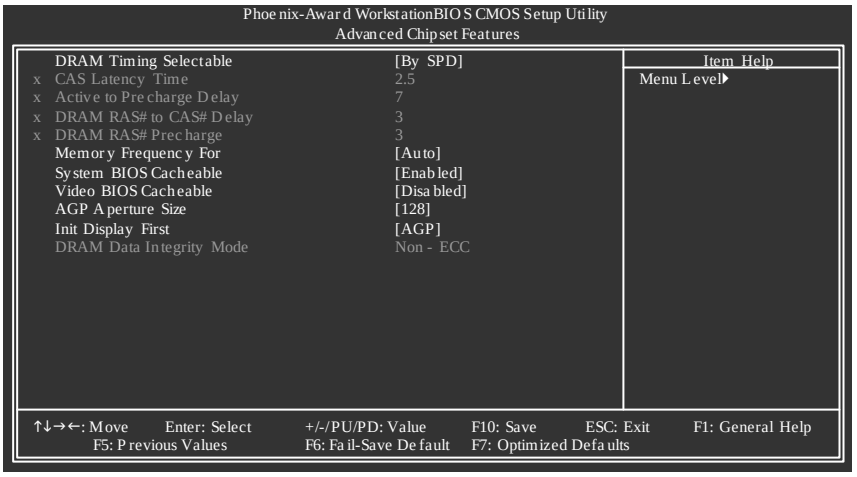
- Yes Will create the report.
- No No report. (Default value)

Small Logo (EPA) Show

- Enabled Show small logo (EPA) on screen.
- Disabled Disables the function. (Default Value)

English

Advanced Chipset Features



DRAM Timing Selectable

The DRAM Timing are set according to the DRAM SPD (Serial Presence Detect).

- By SPD — The system will automatically set DRAM Timing by SPD. (Default value)
- Manual — Set DRAM Timing by Manual.

CAS Latency Time

Sets the latency time (in clocks) between the DRAM read command and the data actually becomes available.

- Options: 2, 2.5(default value), 3

Active to Precharge Delay

Controls the number of DRAM clocks used for DRAM parameters.

- Options: 8, 7(default value), 6, 5

DRAM RAS# to CAS# Delay

Controls the latency between the DRAM active command and the read/write command.

- Options: 4, 3(default value), 2

DRAM RAS# Precharge

Controls the idle clocks after issuing a precharge command to the DDR SDRAM.

- Options: 4, 3(default value), 2

Memory Frequency For

The DDR memory frequency are depend on CPU host frquency.

for FSB(Front Side Bus) frequency=400MHz,

- DDR266 Set DDR Timing parameters by DDR266.
- Auto Set DDR Timing parameters by DRAM SPD data. (Default value)

for FSB(Front Side Bus) frequency=533MHz,

- DDR266 Set DDR Timing parameters by DDR266.
- DDR333 Set DDR Timing parameters by DDR333.
- Auto Set DDR Timing parameters by DRAM SPD data. (Default value)

System BIOS Cacheable

- Enabled Enables the BIOS cacheable function. (Default value)
- Disabled Disables this function.

Video BIOS Cacheable

- Enabled Enables the Viedo BIOS cacheable function. It will get better VGA performance.
- Disabled Disables this function.(Default value)

AGP Aperture Size (MB)

This category allows you to select the size of mapped memory for AGP graphic data.

- Options: 4, 8, 16, 32, 64, 128(default value), 256

Init Display First

This category allows you to select the graphics controller to use as primary boot device.

- Options: PCI slot, AGP(default value)

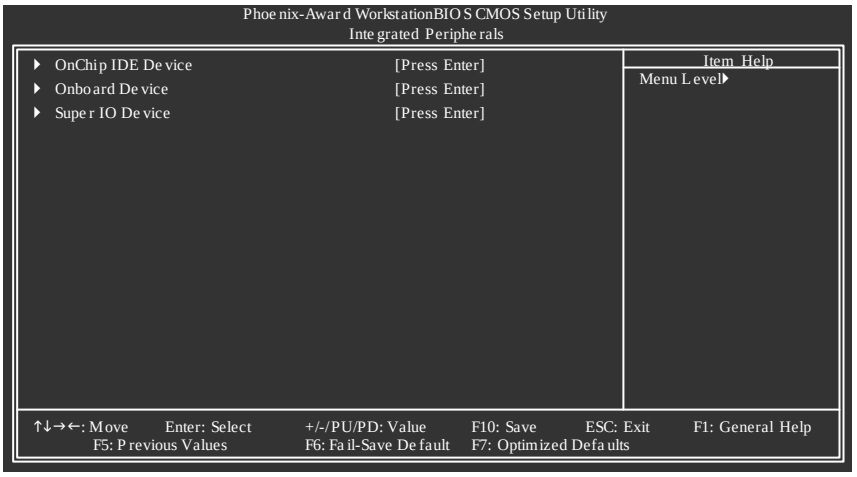
DRAM Data Integrity Mode

If you are using the Non-ECC DRAM, the mode will show "Non-ECC" and this function is disabled.

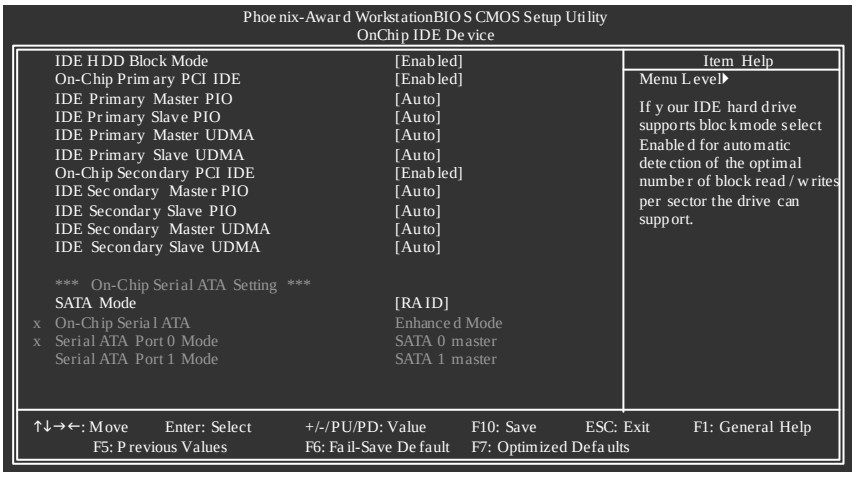
- ECC Set DRAM mode at ECC.
- Non-ECC Set DRAM mode at Non-ECC. (Default value)

English

Integrated Peripherals



▶ OnChip IDE Device



IDE HDD Block Mode

- Enabled — Enables IDE HDD Block mode feature. It allows automatic detection of the optimal number of block read/writes per sector the drive can support. (Default value)
- Disabled — Disables IDE HDD Block mode feature.

On-Chip Primary PCI IDE

- Enabled — Enable onboard 1st channel IDE port. (Default value)
- Disabled — Disable onboard 1st channel IDE port.

IDE Primary Master PIO

- Auto — BIOS will automatically detect the IDE HDD Accessing mode. (Default value)
- Mode0~4 — Manually set the IDE Accessing mode.

IDE Primary Slave PIO

- Auto — BIOS will automatically detect the IDE HDD Accessing mode. (Default value)
- Mode0~4 — Manually set the IDE Accessing mode.

IDE Primary Master UDMA

- Auto — BIOS will automatically detect the IDE HDD Accessing mode. (Default value)
- Disabled — Disabled UDMA function.

IDE Primary Slave UDMA

- Auto — BIOS will automatically detect the IDE HDD Accessing mode. (Default value)
- Disabled — Disabled UDMA function.

On-Chip Secondary PCI IDE

- Enabled — Enable onboard 2nd channel IDE port. (Default value)
- Disabled — Disable onboard 2nd channel IDE port.

IDE Secondary Master PIO

- Auto — BIOS will automatically detect the IDE HDD Accessing mode. (Default value)
- Mode0~4 — Manually set the IDE Accessing mode.

IDE Secondary Slave PIO

- Auto — BIOS will automatically detect the IDE HDD Accessing mode. (Default value)
- Mode0~4 — Manually set the IDE Accessing mode.

IDE Secondary Master UDMA

- Auto — BIOS will automatically detect the IDE HDD Accessing mode. (Default value)
- Disabled — Disabled UDMA function.

English

IDE Secondary Slave UDMA

- Auto — BIOS will automatically detect the IDE HDD Accessing mode. (Default value)
- Disabled — Disabled UDMA function.

*** On-Chip Serial ATA Setting ***

SATA Mode

- IDE — No SATA Raid function.
- RAID — Enables SATA Raid function. It allows configuration of the installed IDE devices into a disk array. (Default value)

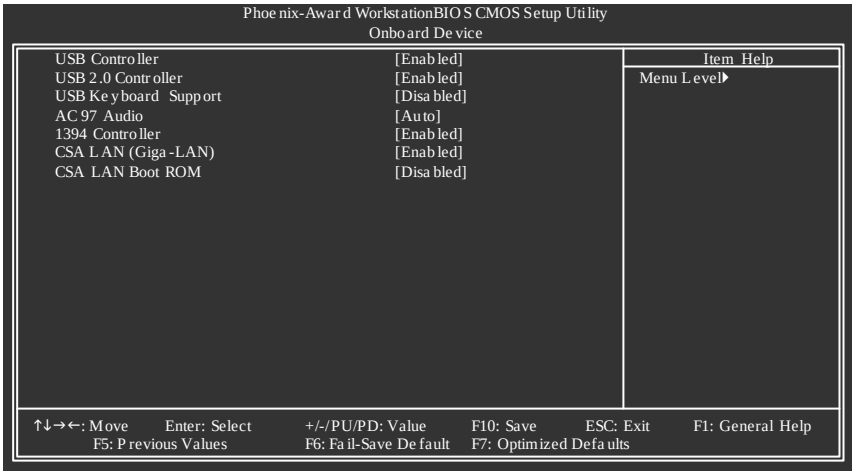
On-Chip Serial ATA

- Auto — BIOS will automatically configure the SATA devices.
- Combined Mode — Allows you to install parallel ATA and Serial ATA devices at the same time. As this mode, it support by MS-DOS, WinME/98/NT4.0 OS only.
- Enhaneced Mode — Allows you to install parellel ATA and Serial ATA devices at the same time, with a maximum of six IDE devices on each channel. As this mode, it support by Win2000/XP OS only. (Default value)
- SATA Only — Allows you to insatll IDE devices on the Serial ATA channels only.
- Disabled — Disables SATA controller. The RAID function will be also disabled.

SATA Port0 / Port1 Mode

- The values depend on On-Chip Serial ATA setting.

Onboard Device



USB Controller

- Enabled — Enable USB Controller. (Default value)
- Disabled — Disable USB Controller.

USB 2.0 Controller

Disable this function if you are not using onboard USB 2.0 feature.

- Enabled — Enable USB 2.0 Controller. (Default value)
- Disabled — Disable USB 2.0 Controller.

USB Keyboard Support

- Enabled — Enable Legacy USB Keyboard Support.
- Disabled — Disable Legacy USB Keyboard Support. (Default value)

AC97 Audio

- Auto — Auto detect AC'97 audio function. (Default value)
- Disabled — Disable AC'97 audio function.

1394 Controller

- Enabled — Enable 1394 controller. (Default value)
- Disabled — Disable 1394 controller.

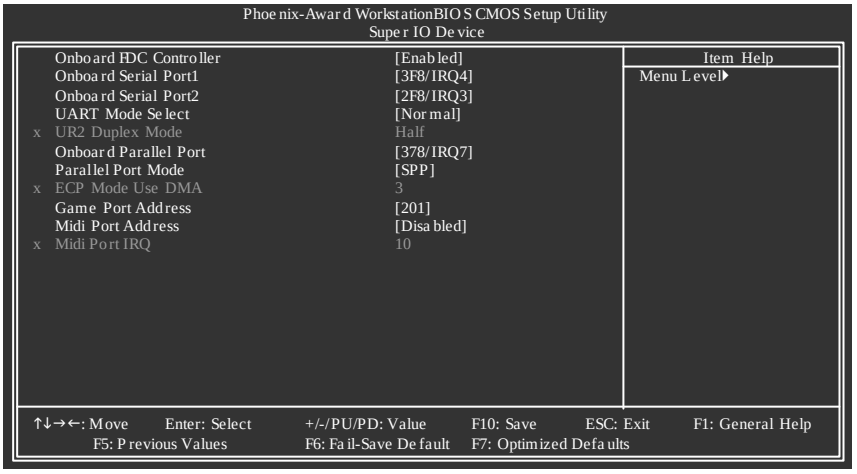
CSA LAN (Giga-LAN)

- Enabled — Enable the Gigabit LAN Controller. (Default value)
- Disabled — Disable the Gigabit LAN Controller.

CSA LAN Boot ROM

- Enabled — Enable the boot device priority by LAN.
- Disabled — Disable this function. (Default value)

Super IO Device



Onboard FDC Controller

- Enabled — Select "Enabled" to active Onboard Floppy Controller. (Default value)
- Disabled — Disable this function.

Onboard Serial Port 1

- Auto — BIOS will automatically setup the port 1 address.
- 3F8/IRQ4 — Enable onboard Serial port 1 and address is 3F8. (Default value)
- 2F8/IRQ3 — Enable onboard Serial port 1 and address is 2F8.
- 3E8/IRQ4 — Enable onboard Serial port 1 and address is 3E8.
- 2E8/IRQ3 — Enable onboard Serial port 1 and address is 2E8.
- Disabled — Disable onboard Serial port 1.

Onboard Serial Port 2

- Auto — BIOS will automatically setup the port 2 address.
- 3F8/IRQ4 — Enable onboard Serial port 2 and address is 3F8.
- 2F8/IRQ3 — Enable onboard Serial port 2 and address is 2F8. (Default value)
- 3E8/IRQ4 — Enable onboard Serial port 2 and address is 3E8.
- 2E8/IRQ3 — Enable onboard Serial port 2 and address is 2E8.
- Disabled — Disable onboard Serial port 2.

UART Mode Select

This item allows you to determine which Infra Red(IR) function of Onboard I/O chip.

- ASKIR — Set onboard I/O chip UART to ASKIR Mode.
- IrDA — Set onboard I/O chip UART to IrDA Mode.
- Normal — Set onboard I/O chip UART to Normal Mode. (Default Value)

UR2 Duplex Mode

This feature allows you to seclect IR mode.

This function will available when "UART Mode Select" doesn't set at Normal.

- Half — IR Function Duplex Half. (Default value)
- Full — IR Function Duplex Full.

Onboard Parallel port

This feature allows you to select from a given set of parameters if the parallel port uses the onboard I/O controller.

- Disabled — Disable onboard LPT port.
- 378/IRQ7 — Enable onboard LPT port and address is 378/IRQ7. (Default value)
- 278/IRQ5 — Enable onboard LPT port and address is 278/IRQ5.
- 3BC/IRQ7 — Enable onboard LPT port and address is 3BC/IRQ7.

Parallel port Mode

This option allows user to set parallel transfer mode.

- SPP — Using Parallel port as Standard Parallel Port. (Default value)
- EPP — Using Parallel port as Enhanced Parallel Port.
- ECP — Using Parallel port as Extended Capabilities Port.
- ECP+EPP — Using Parallel port as ECP & EPP mode.

English

ECP Mode Use DMA

This feature allows you to select Direct Memory Access (DMA) channel if the ECP mode selected.

This function will available when "Parallel Port Mode" set at ECP or ECP+EPP.

- 3 Set ECP Mode Use DMA to 3. (Default value)
- 1 Set ECP Mode Use DMA to 1.

Game Port Address

- 201 Set Game Port Address to 201. (Default value)
- 209 Set Game Port Address to 209.
- Disabled Disable this function.

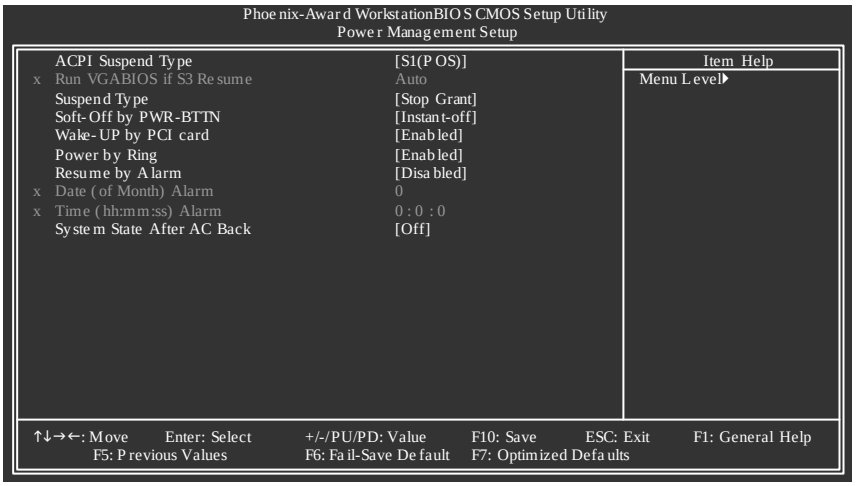
Midi Port Address

- 300 Set Midi Port Address to 300.
- 330 Set Midi Port Address to 330.
- Disabled Disable this function. (Default value)

Midi Port IRQ

- 5 Set Midi Port IRQ to 5.
- 10 Set Midi Port IRQ to 10. (Default value)

Power Management Setup



ACPI Suspend Type

- S1(POS) Set ACPI suspend type to Power On Suspend under ACPI OS. (Default value)
- S3(STR) Set ACPI suspend type to Suspend to RAM under ACPI OS.
- S1&S3 Set ACPI suspend type to S1&S3 under ACPI OS. It depend on the drivers and OS.

RUN VGA BIOS if S3 Resume

To determine whether you want to invoke VGA BIOS POST on S3/STR resume.

- Options: Auto(Default value), Yes, No.

Suspend Type

- Stop Grant Set Suspend Type to stop grant. (Default value)
- PwrOn Suspend Set Suspend Type to Power On suspend.

Soft-Off by PWR-BTTN

- Instant-off Press power button then Power off instantly. (Default value)
- Delay 4 Sec. Press power button 4 sec. to Power off. Enter suspend if button is pressed less than 4 sec.

Wake up by PCI Card

- Disabled — Disable this function.
- Enabled — Enable wake up by PCI Card event. (Default value)

Power On by Ring

- Disabled — Disable System wake up on Ring function.
- Enabled — Enable System wake up on Ring function. (Default value)

Resume by Alarm

You can set "Resume by Alarm" item to enabled and key in Data/time to power on system.

- Disabled — Disable this function. (Default value)
- Enabled — Enable alarm function to POWER ON system.

  If RTC Alarm Lead To Power On is Enabled.

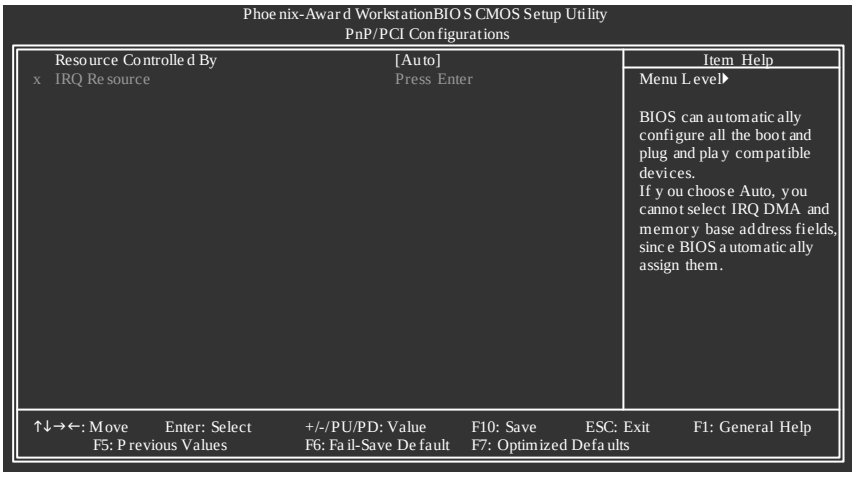
  Date (of Month) Alarm : Everyday, 1~31

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

System State After AC BACK

- Off — When AC-power back to the system, the system will be in "Off" state. (Default value)
- On — When AC-power back to the system, the system always in "On" state.
- Former-Sts — When AC-power back to the system, the system will return to the Last state before AC-power off.

PnP/PCI Configurations

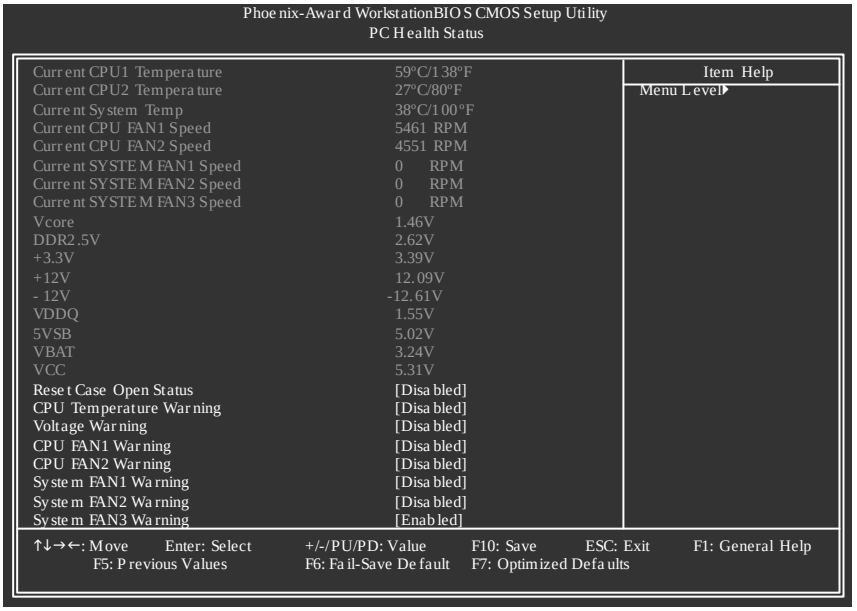


Resource Controlled By

- Manual — This function requires user to assign the resource manually.
- Auto — System will assign PnP resource (I/O address, DMA channels) for Plug and Play compatible device automatically. (Default value)

English

PC Health Status



- **Current CPU1/2 & Sysytem Temperature**

  Detect CPU1/2 & System Temp. automatically.

- **Current CPU1/2 & System FAN1/2/3 Speed (RPM)**

  Detect CPU1/2 & System Fan1/2/3 speed status automatically.

- **Current Voltage (V) Vcore / DDR2.5V / +3.3V / +12V / -12V/ VDDQ / 5VSB / VBAT / VCC**

  Detect system's voltage status automatically.

- **Reset Case Open Status**

  If the case have been opened, the system will show "Warning" message when post the system.

  Options: Enabled, Disabled (Default value).

CPU Temperature Warning

- Disabled — Disable this function. (Default value)
- 85°C — Monitor CPU temp. and set the over temperature warning at 85°C.
- 90°C — Monitor CPU temp. and set the over temperature warning at 90°C.
- 95°C — Monitor CPU temp. and set the over temperature warning at 95°C.
- 100°C — Monitor CPU temp. and set the over temperature warning at 100°C.
- 105°C — Monitor CPU temp. and set the over temperature warning at 105°C.

Voltage Warning

- Disabled — Voltage Warning Function Disable. (Default value)
- Enabled — Voltage Warning Function Enable.

CPU FAN1/2 Warning

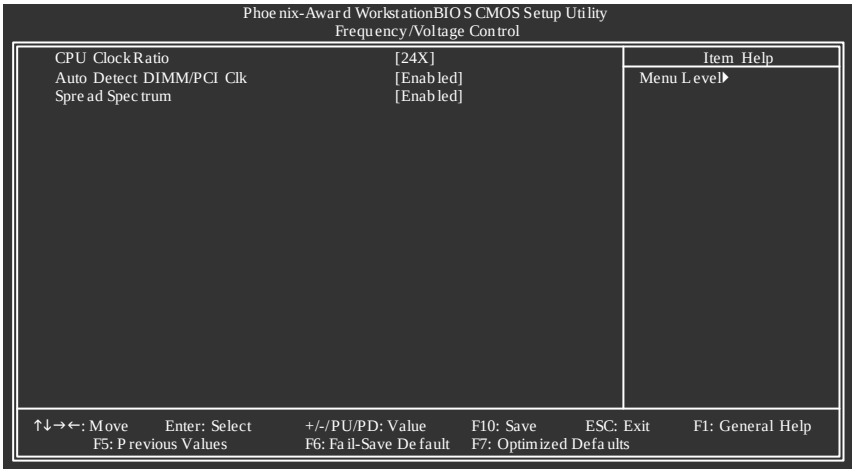
- Disabled — Fan Warning Function Disable. (Default value)
- Enabled — Fan Warning Function Enable.

System FAN1/2/3 Warning

- Disabled — Fan Warning Function Disable. (Default value)
- Enabled — Fan Warning Function Enable.

English

Frequency/Voltage Control



CPU Clock Ratio

This option will not be shown or not be available if you are using a CPU with the locked ratio.

- 12X~24X It depends on CPU Clock Ratio.

The option will display "Locked" and read only if the CPU ratio is not changeable.

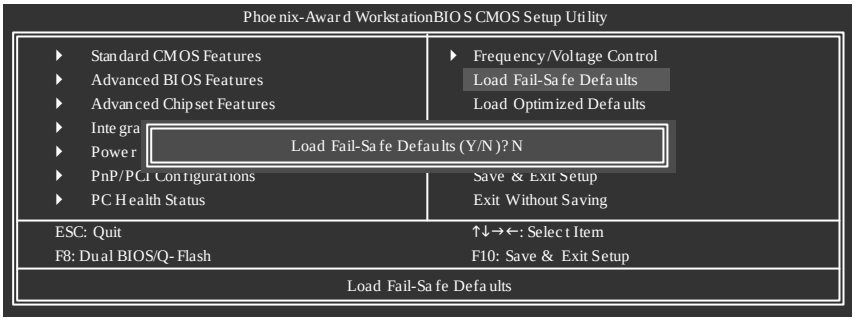
Auto Detect DIMM/PCI Clk

- Disabled Disable this function.
- Enabled Enable auto detect DIMM/PCI Clk function for EMI supression. (Default value)

Spread Spectrum

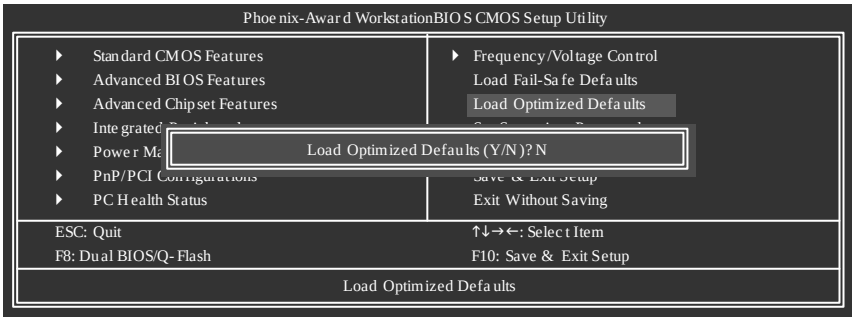
- Disabled Disable this function.
- Enabled Enable Spread Spectrum for EMI supression. (Default value)

Load Fail-Safe Defaults



Fail-Safe defaults contain the most appropriate values of the system parameters that allow minimum system performance.

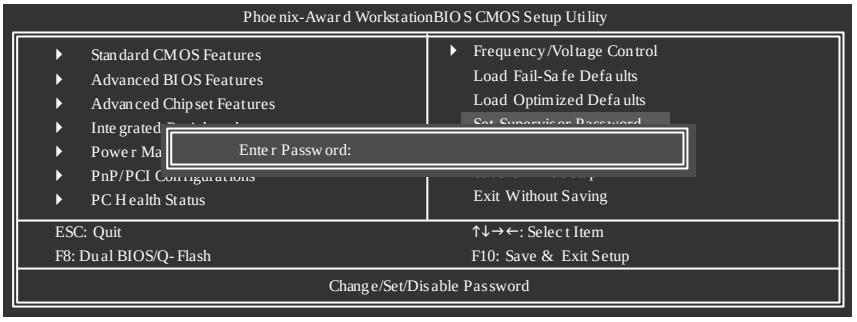
Load Optimized Defaults



Selecting this field loads the factory defaults for BIOS and Chipset Features which the system automatically detects.

English

Set Supervisor/User Password



When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

Type the password, up to eight characters, and press <Enter>. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable password, just press <Enter> when you are prompted to enter password. A message "PASSWORD DISABLED" will appear to confirm the password being disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

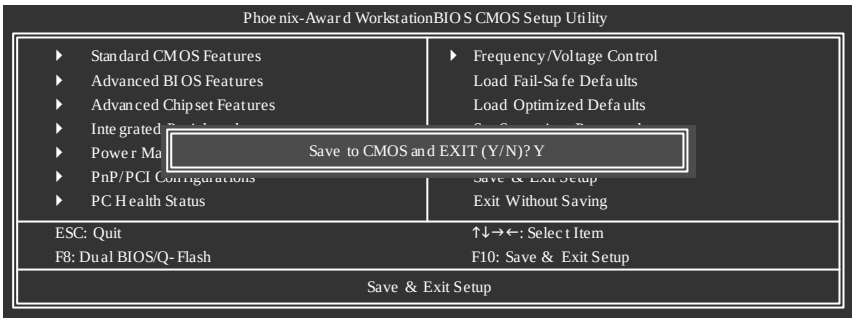
The BIOS Setup program allows you to specify two separate passwords:

SUPERVISOR PASSWORD and a USER PASSWORD. When disabled, anyone may access all BIOS Setup program function. When enabled, the Supervisor password is required for entering the BIOS Setup program and having full configuration fields, the User password is required to access only basic items.

If you select "System" at "Password Check" in Advance BIOS Features Menu, you will be prompted for the password every time the system is rebooted or any time you try to enter Setup Menu.

If you select "Setup" at "Password Check" in Advance BIOS Features Menu, you will be prompted only when you try to enter Setup.

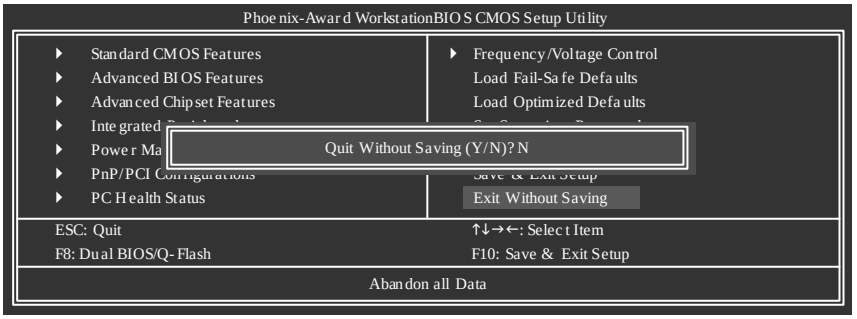
Save & Exit Setup



Type "Y" will quit the Setup Utility and save the user setup value to RTC CMOS.

Type "N" will return to Setup Utility.

Exit Without Saving



Type "Y" will quit the Setup Utility without saving to RTC CMOS.

Type "N" will return to Setup Utility.

English

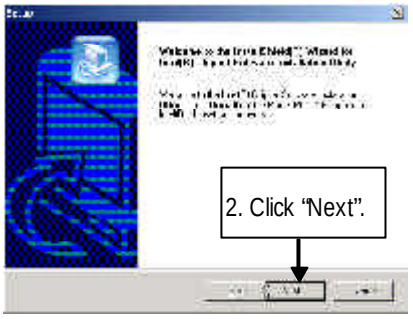
Chapter 4 Appendix

Install Drivers

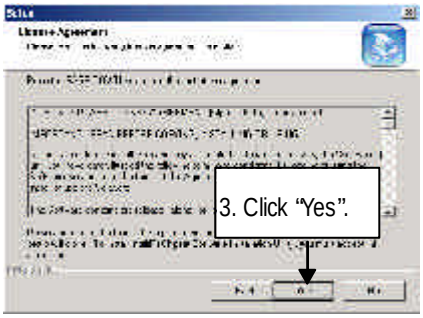
Insert the driver CD-title that came with your motherboard into your CD-ROM drive, the driver CD-title will auto start and show the installation guide. If not, please double click the CD-ROM device icon in "My computer", and execute the setup.exe.

A. INF Update Installation

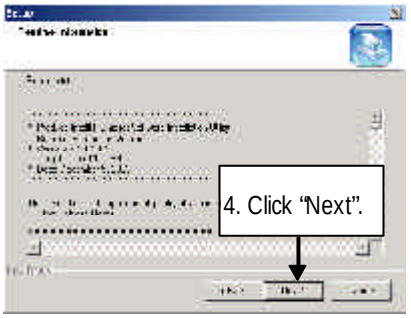
(1)



(2)



(3)



(4)

(5)

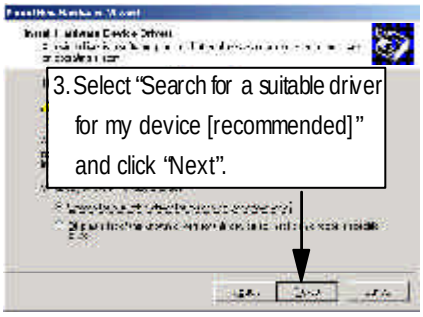
B. Install SATA Drivers

B-1. Install RAID Controller

(1)

The system will detect the new hardware automatically.

(2)



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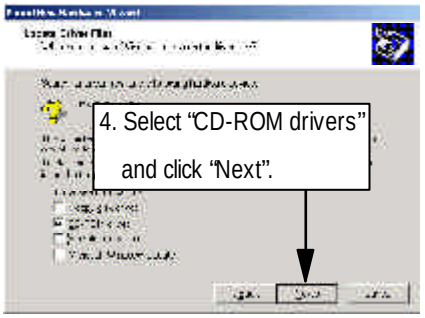
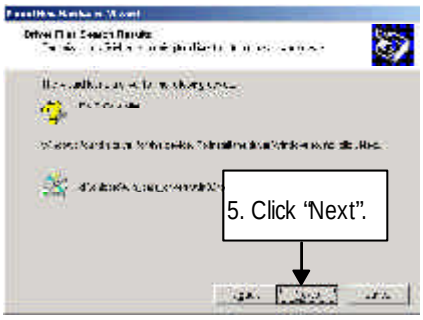


(4)

English



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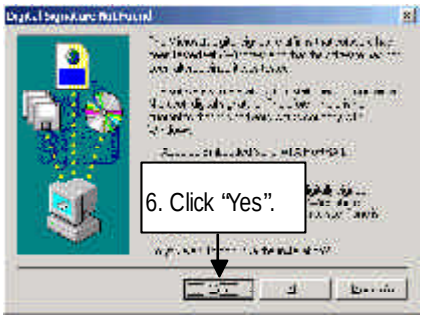
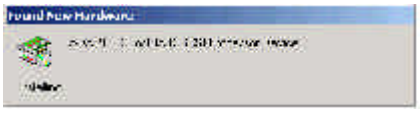


(6)

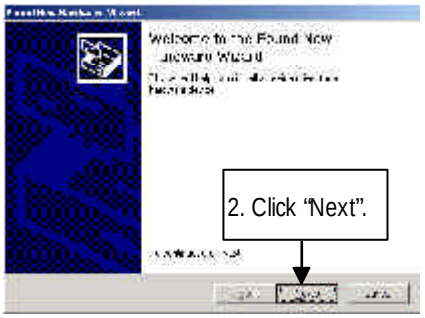
(7)

B-2. Install HostRAID SCSI Processor



(1)

The system will detect the new hardware automatically.



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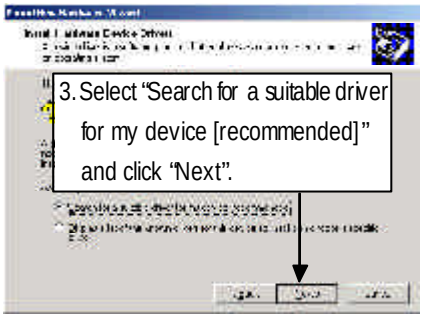

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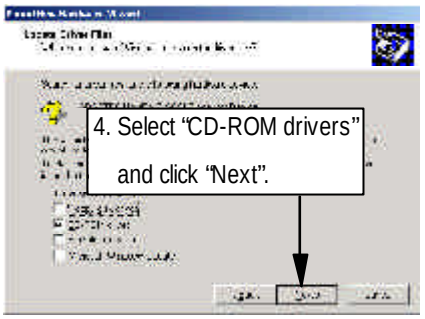

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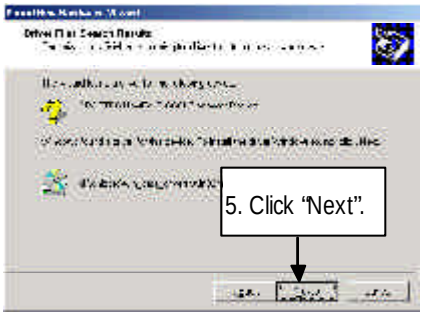

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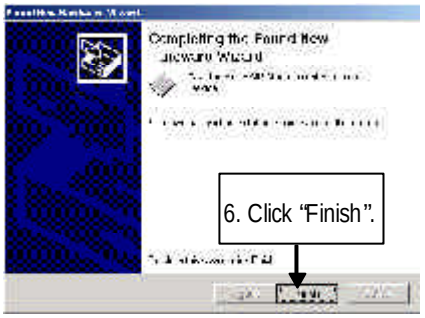
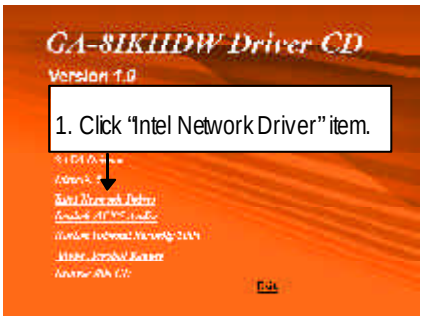


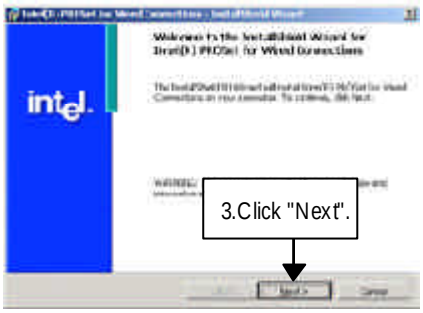
(6)

C. Intel Network Driver Installation



(1)

(2)



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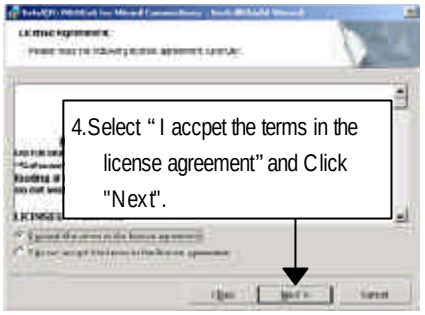

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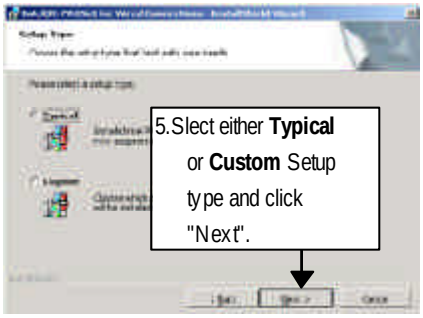


(5)

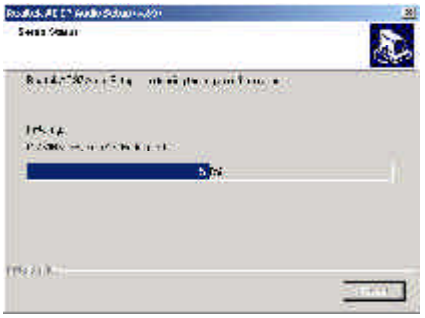
(6)

Step 5. Note that user can select either **Typical** or **Custom** Setup Types. **Typical** setup type allows users to install basic connectivity and the adapter management utility. **Custom** setup type embraces installing features and subfeatures user selects, including modern utilities, manage ment components and drivers. Recommended for advanced users.

(7)

D. Realtek AC'97 Audio Installation

(1)



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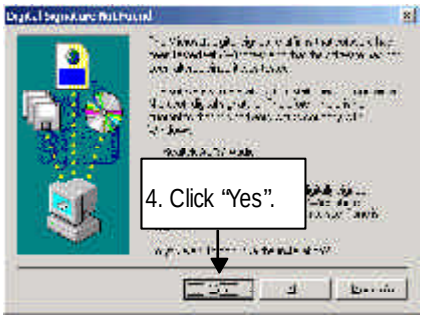
(3)



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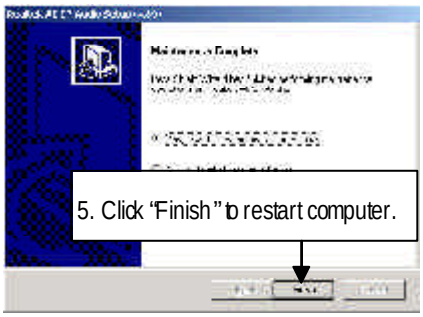

(5)

English

Technical Support/RMA Sheet

Customer/Country:	Company:	Phone No.:
Contact Person:	E-mail Add. :	

Model name/Lot Number:	PCB revision:
BIOS version:	O.S./A.S.:

Hardware Configuration	Mfs.	Model name	Size:	Driver/Utility:
CPU				
Memory Brand				
Video Card				
Audio Card				
HDD				
CD-ROM / DVD-ROM				
Modem				
Network				
AMR / CNR				
Keyboard				
Mouse				
Power supply				
Other Device				

Problem Description:

Acronyms

Acronyms	Meaning
ACPI	Advanced Configuration and Power Interface
APM	Advanced Power Management
AGP	Accelerated Graphics Port
AMR	Audio Modem Riser
ACR	Advanced Communications Riser
BIOS	Basic Input / Output System
CPU	Central Processing Unit
CMOS	Complementary Metal Oxide Semiconductor
CRIMM	Continuity RIMM
CNR	Communication and Networking Riser
DMA	Direct Memory Access
DMI	Desktop Management Interface
DIMM	Dual Inline Memory Module
DRM	Dual Retention Mechanism
DRAM	Dynamic Random Access Memory
DDR	Double Data Rate
ECP	Extended Capabilities Port
ESCD	Extended System Configuration Data
ECC	Error Checking and Correcting
EMC	Electromagnetic Compatibility
EPP	Enhanced Parallel Port
ESD	Electrostatic Discharge
FDD	Floppy Disk Device
FSB	Front Side Bus
HDD	Hard Disk Device
IDE	Integrated Dual Channel Enhanced
IRQ	Interrupt Request

to be continued.....

English

Acronyms	Meaning
IOAPIC	Input Output Advanced Programmable Input Controller
ISA	Industry Standard Architecture
LAN	Local Area Network
I/O	Input / Output
LBA	Logical Block Addressing
LED	Light Emitting Diode
MHz	Megahertz
MIDI	Musical Instrument Digital Interface
MTH	Memory Translator Hub
MPT	Memory Protocol Translator
NIC	Network Interface Card
OS	Operating System
OEM	Original Equipment Manufacturer
PAC	PCI A.G.P. Controller
POST	Power-On Self Test
PCI	Peripheral Component Interconnect
RIMM	Rambus in-line Memory Module
SCI	Special Circumstance Instructions
SECC	Single Edge Contact Cartridge
SRAM	Static Random Access Memory

English

CONTACTUS

Contact us via the information in this page all over the world.

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