GA-9ILDR

Dual Xeon™ (Nocona)

Processor Motherboard

USER'S MANUAL

Dual Xeon™ (Nocona)Processor Motherboard
Rev. 1001
12ME-9ILDR-1001

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- ☑ GA-9ILDR user's manual

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.

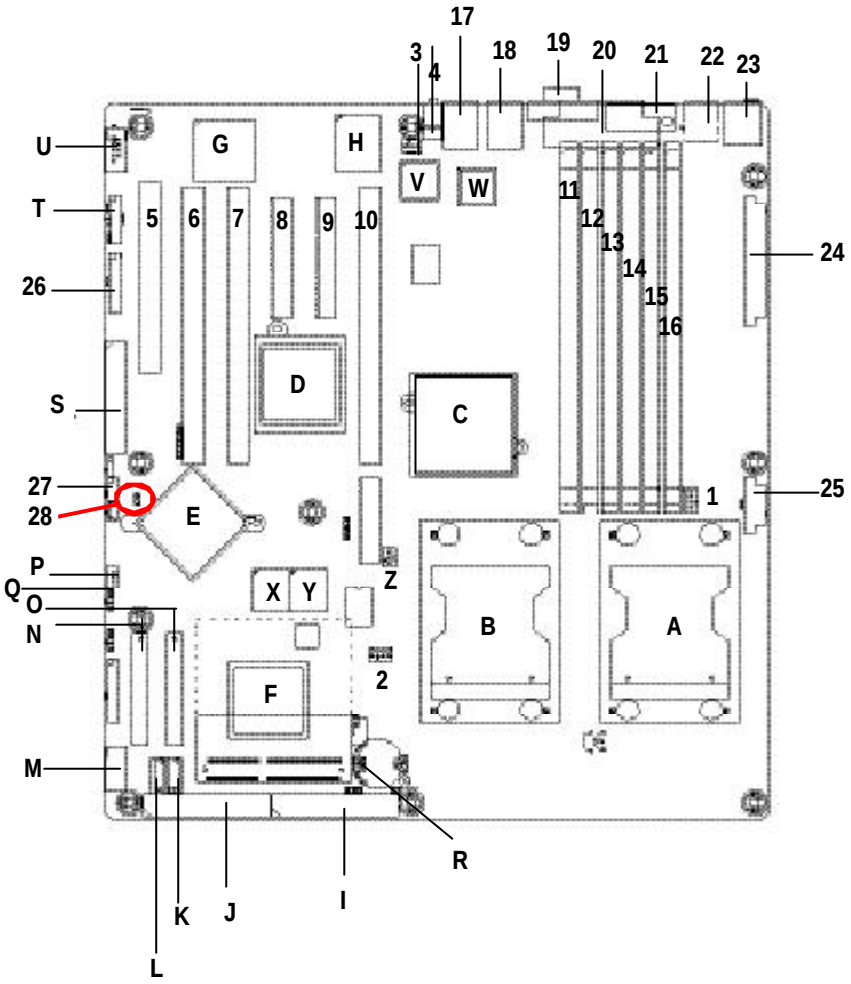
Chapter 1 Introduction

Features Summary

Form Factor	• 30.5cm x 33cm Extend ATX size form factor, 8 layers PCB.
Motherboard	• GA-9ILDR Motherboard:
CPU	• Dual socket 604 for Intel® Xeon(Nocona) processor suopprts 4.0 GB and upper • Intel® Xeon (Nocona) CPUs supports 800 MHz FSB • 2nd cache depend on CPU
Chipset	• Intel E7520 Chipset • ICH5R I/O Controller Hub • Intel 6700 PXH
Memory	• 6 x 184-pin DDR DIMM sockets • Supports 6 ECC Registered DIMM DDR-266/333 • Supports up to 16GB DRAM (Max) for DDR-333 • Supports up to 24GB DRAM (Max) for DDR-266 • Supports only 2.5V DDR DIMM
I/O Control	• IT8712 F
Slots	• 2 PCI-X slot supports 64/100MHz (3.3V) • 1 PCI-X slot supports 64/133MHz (3.3V) • 2 PCI-E slot by 4 x 1 and by 4 x 1 • 1 PCI slot support 32/33MHz
On-Board IDE	• 2 IDE controllers on the Intel ICH5R PCI chipset provides IDE HDD/CD-ROM (IDE1, IDE2) with PIO, Bus Master (ATA100) operation modes.
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/EPP/ECP mode • 1 Serial port (COM) • 4 x USB 2.0 (2 X at rear, 2 x by cable) • 1 x VGA port • 2 x RJ45 LAN port
Hardware Monitor	• CPU/Power/System Fan Revolution Detect • CPU shutdown when overheat • System Voltage Detect

SCSI Controller	• LSI 1030 chipset • Supports mirroring (RAID 1/ RAID1E) • Support ATAPI mode for CD ROM, DVD ROM ..etc. • Supports IDE bus master operation • Mirroring supports automatic background rebuilds • Features LBA and Extended Interrupt 13 drive translation in controller onboard BIOS
On-Board RAID	• Intel ICH5R chipset supports SATA RAID 0,1 • LSI1030 chipset supports Host RAID
On-Board LAN	• Dual Boardcome BCM5721 Chipset
On-Board USB 2.0	• Built in ICH5R Chipset
PS/2 Connector	• PS/2 Keyboard interface and PS/2 Mouse interace
BIOS	• Lincensed AWARD on 4MB Flash RAM • Supports multi boot function • User setting for hardware monitoring • Supports PXE
Additional Features	• PS/2 Keyboard power on by password • PS/2 Mouse power on • STR(Suspend-To-RAM) • Wake on LAN (WOL) • AC Recovery • Poly fuse for keyboard over-current protection

GA-9ILDR Motherboard Layout



A.	CPU0 (Install First)	**1.**	CPU_FAN0 (CPU FAN)
B.	CPU1	**2.**	CPU_FAN1 (CPU FAN)
C.	Intel E7520	**3.**	SYS_FAN1 (System FAN)
D.	Intel 6700 PXH	**4.**	SYS_FAN2 (System FAN)
E.	LSI 1030 (SCSI Controller)	**5.**	PCI-6 (Supports 32bit/33MHz)
F.	ICH5R	**6.**	PCI-5 (Supports 64bit/66~100MHz)
G.	ATI Rage_XL	**7.**	PCI-4 (Supports 64bit/66~100MHz)
H.	ITE IT8712F	**8.**	PCIE-3 (Supports PCI Express)
I.	IDE2	**9.**	PCIE-2 (Supports PCI Express)
J.	IDE1	**10.**	PCI-1 (Supports 64bit/133MHz)
K.	SATA0	**11.**	DDRA1
L.	SATA1	**12.**	DDRB1
M.	USB2	**13.**	DDRA2
N.	SCSI2 (SCSI connector)	**14.**	DDRB2
O.	SCSI1 (SCSI connector)	**15.**	DDRA3
P.	IPMB1	**16.**	DDRB3
Q.	IPMB2	**17.**	LAN1(RJ45 LAN connector)
R.	BT1 (Battery)	**18.**	LAN2(RJ45 LAN connector)
S.	FD1 (Floppy connector)	**19.**	VGA port
T.	GIGA_FP (Front Panel)	**20.**	LPT port
U.	COM1	**21.**	COM port
V.	Broadcom BCM5721	**22.**	USB connector
W.	Broadcom BCM5721	**23.**	KB_MS (Keyboard & Mouse)
X.	BIOS	**24.**	ATX1 (SSI power connector)
Y.	SCSI BIOS	**25.**	ATX2 (SSI power connector)
Z.	PXH_FAN	**26.**	295_FP (Foe System Only)
		27.	WOL (Wake On LAN)
		28.	RI (Ring Input)

Chapter 2 Hardware Installation Process

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

Step 1- Install the Central Processing Unit (CPU)

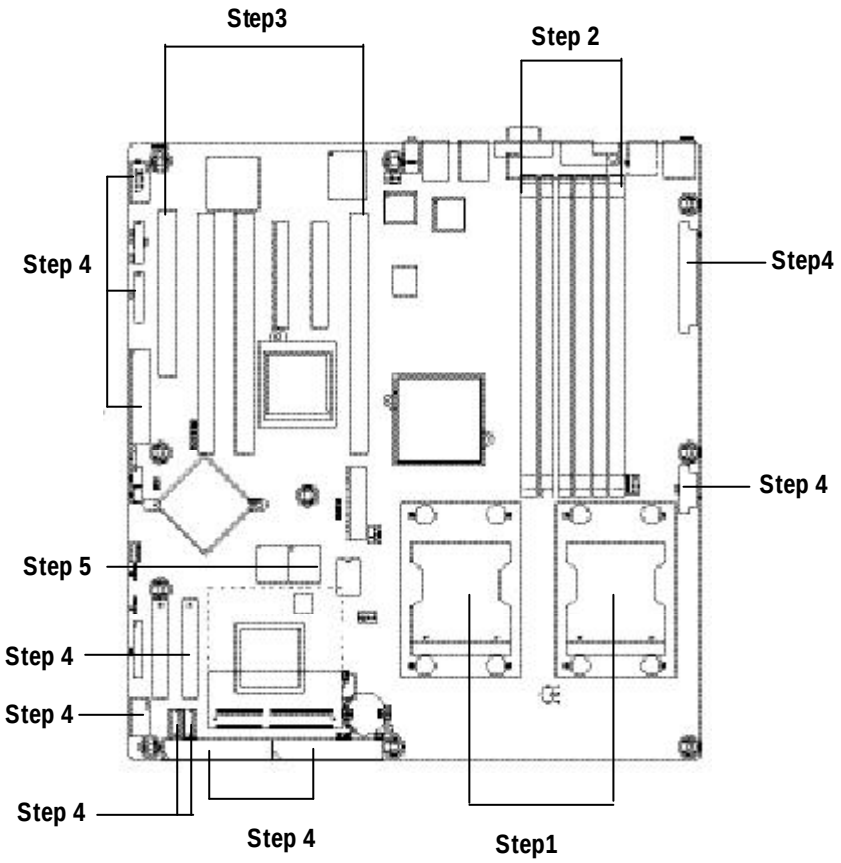
Step 2- Install memory modules

Step 3- Install expansion cards

Step 4- Connect ribbon cables, cabinet wires, and power supply

Step 5- Setup BIOS software

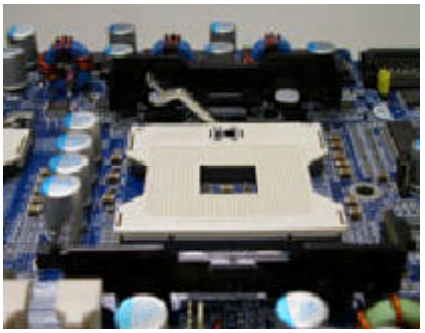
Step 6- Install supporting software tools



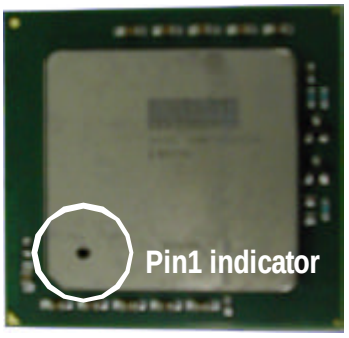
Step 1: Install the Central Processing Unit (CPU)

Before installing the processor , adhere to the following warning:

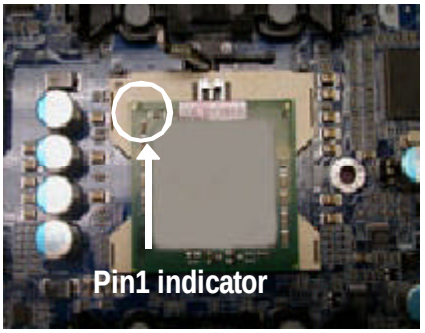
If you do not match the CPU socket Pin 1 and CPU cut edge well, it will cause improper installation. Please change the insert orientation. Please make sure the CPU type is supported by the motherboard.



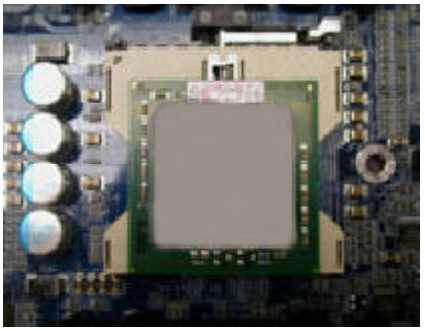
1. Angling the rod to 65-degree maybe feel a kind of fight , and then continue pull the rod to 90-degree when a noise "cough" made.



2. CPU Top View



3. 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.



4. Press down the CPU socket lever and finish CPU installation.

Step 1-2:CPU Heat Sink Installation

Before installing the CPU Heat Sink , adhere to the following warning:

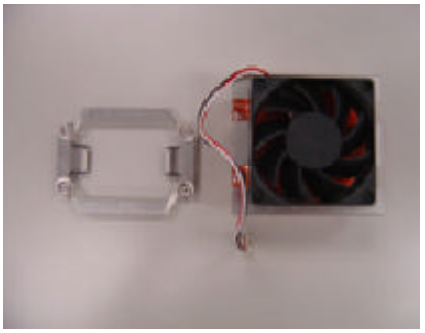
1.Please use Intel approved cooling fan.

2.We recommend you to apply the thermal tape to provide better heat conduction between your CPU and heatsink.

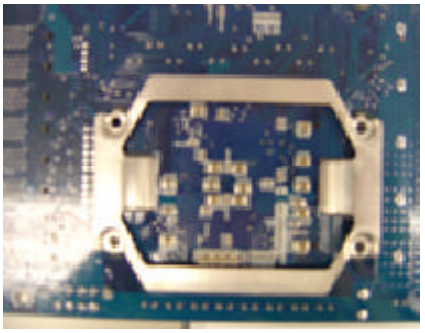
(The CPU cooling fan might stick to the CPU due to the hardening of the thermal paste. During this condition if you try to remove the cooling fan, you might pull the processor out of the CPU socket alone with the cooling fan, and might damage the processor. To avoid this from happening, we suggest you 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.

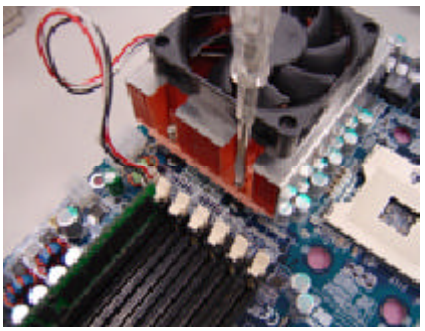
Please refer to CPU heat sink user's manual for more detail installation procedure.



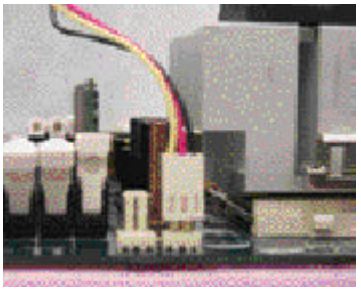
1. Heat sink installation kit.



2. Turn the mother bord to the backside. Lock the retention module on the mother board
   Make sure the position of the 4 holes on the retention module match exactly the position on the motherboard.



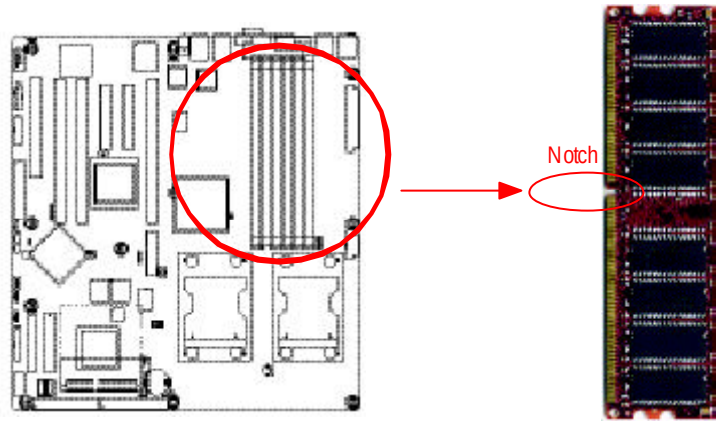
3. Fasten the heatsink supporting-base onto the CPU socket on the mainboard.



4. Make sure the CPU fan is plugged to the CPU fan connector, than install complete.

Step 2: Install memory modules

Before installing the processor and heatsink, adhere to the following warning:
When DIMM LED is ON, do not install/remove DIMM from socket.
Please note that the DIMM module can only fit in one direction due to the one notches. 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.

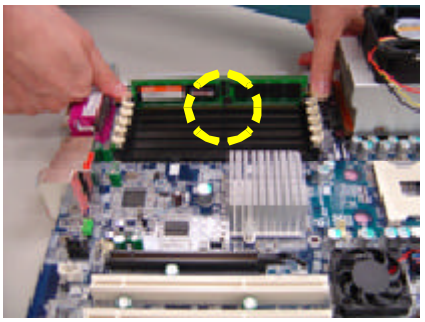


DDR

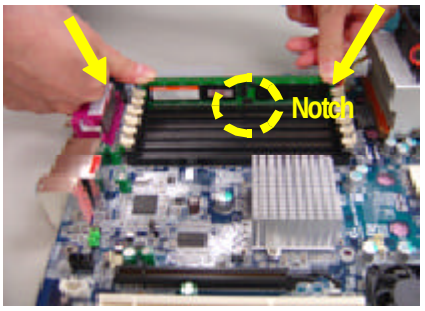
Total Memory Sizes With Registered DDR DIMM

Devices used on DIMM	1 DIMMx64/x72	2 DIMMsx64/x72	3 DIMMsx64/x72	4 DIMMsx64/x72
64 Mbit (4Mx4x4 banks)	256 MBytes	512 MBytes	768 MBytes	1 GBytes
64 Mbit (2Mx8x4 banks)	128 MBytes	256 MBytes	384 MBytes	512 MBytes
64 Mbit (1Mx16x4 banks)	64 MBytes	128 MBytes	192 MBytes	256 MBytes
128 Mbit(8Mx4x4 banks)	512 MBytes	1 GBytes	1.5 GBytes	2 GBytes
128 Mbit(4Mx8x4 banks)	256 MBytes	512 MBytes	768 MBytes	1 GBytes
128 Mbit(2Mx16x4 banks)	128 MBytes	256 MBytes	384 MBytes	512 MBytes
256 Mbit(16Mx4x4 banks)	1 GBytes	2 GBytes	3 GBytes	4 GBytes
256 Mbit(8Mx8x4 banks)	512 MBytes	1 GBytes	1.5 GBytes	2 GBytes
256 Mbit(4Mx16x4 banks)	256 MBytes	512 MBytes	768 MBytes	1 GBytes
512 Mbit(32Mx4x4 banks)	2 GBytes	4 GBytes	4 GBytes	4 GBytes
512 Mbit(16Mx8x4 banks)	1 GBytes	2 GBytes	3 GBytes	4 GBytes
512 Mbit(8Mx16x4 banks)	512 MBytes	1 GBytes	1.5 GBytes	2 GBytes

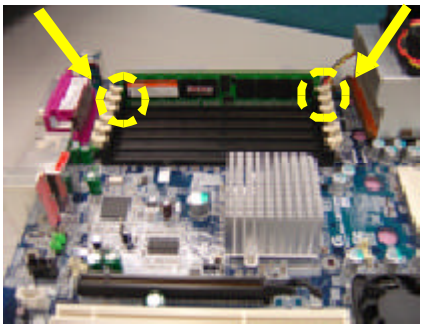
1. The DIMM slot has a notch, so the DIMM memory module can only fit in one direction.



2. Insert the DIMM memory module vertically into the DIMM slot. Then push it down.
Please note that DIMM must be populated in order starting at the nearest slot from the ATX power.



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

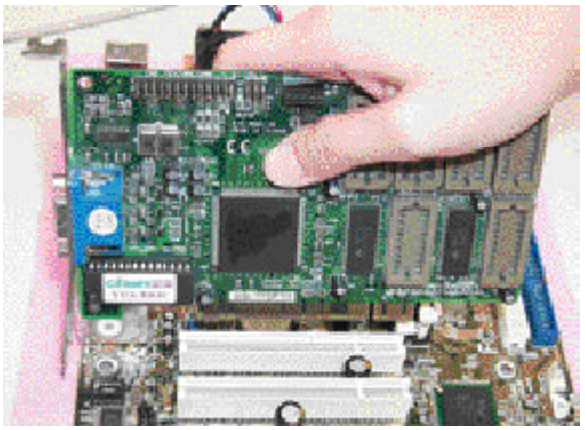


DDR Introduction

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 3.2GB/s of DDR400 memory and complete line of DDR400/333/266/200 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.

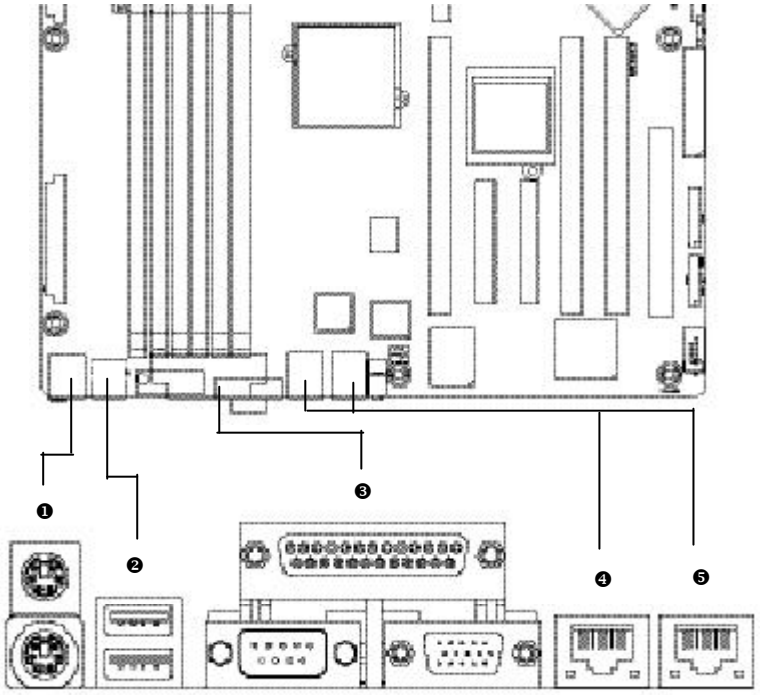
Step 3: Install expansion cards

1. Read the related expansion card's instruction document before install the expansion card into the computer.
2. Remove your server's chassis cover, necessary 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.

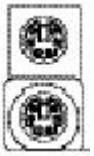


Step 4: Connect ribbon cables, cabinet wires, and power supply

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.

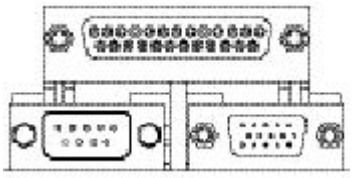
❷ USB Connectors

USB1

- 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.

❸ Parallel Port / Serial Port / VGA Port (LPT/COMA/VGA)

Parallel Port
(25 pin Female)

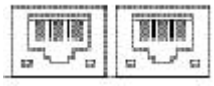


COMA
Serial Ports (9 pin Male)

VGA Port
(15 pin Female)

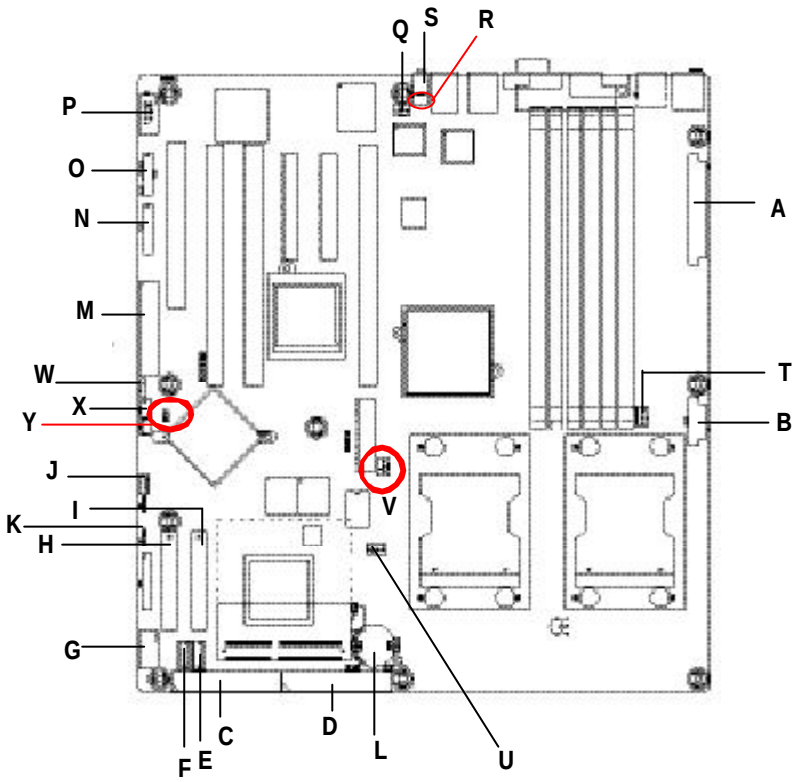
- This connector supports 1 standard COM port and 1 Parallel port. Device like printer can be connected to Parallel port ; mouse and modem etc can be connected to Serial port.

❹/❺ LAN Connecotrs



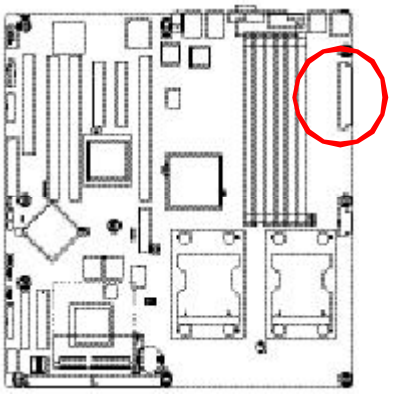
LAN Port	Status	Description
LAN	Yellow LED On	GIGALAN connected
	Green LED On	GIGALAN at Speed 10/100MB
	Green LED Blinking	Data Transfer

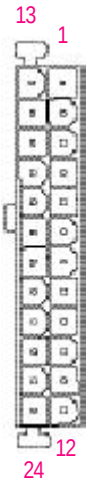
Step 4-2 :Connectors Introduction



A) ATX1	N) 295_FP
B) ATX2	O) GIGA_FP
C) IDE1	P) COM1
D) IDE2	Q) SYS_FAN1
E) SATA0	R) SYS_FAN2
F) SATA1	S) IDSW
G) USB2	T) CPU_FAN0
H) SCSI1	U) CPU_FAN1
I) SCSI2	V) PXH_FAN1
J) IPMB1	W) EX_HDLED
K) JP17 (IPMB2)	X) WOL
L) BT1	Y) RI
M) FD1	

A) ATX 1 (ATX Power Connector)

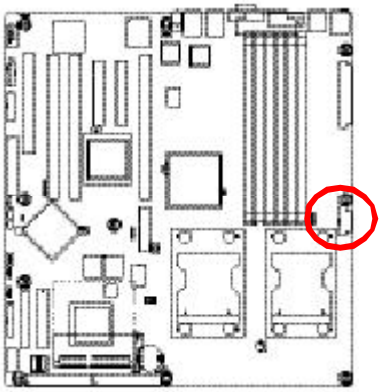


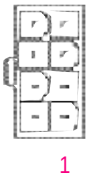


PIN No.	Definition
1	+3.3V
2	+3.3V
3	GND
4	+5V
5	GND
6	+5V
7	GND
8	POK
9	5VSB
10	+12V
11	+12V
12	+3.3V
13	+3.3V
14	-12V
15	GND
16	PSON
17	GND
18	GND
19	GND
20	-5V
21	+5V
22	+5V
23	+5V
24	GND

➢ 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.

B) ATX2 (ATX Power Connector)



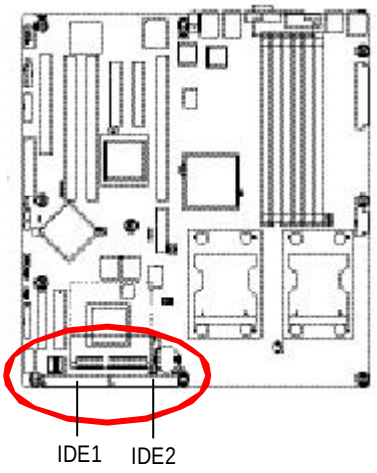


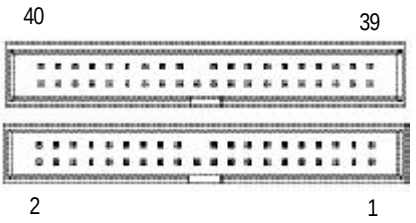
Pin No.	Definition
1	GND
2	GND
3	GND
4	GND
5	P12V_CPU1
6	P12V_CPU1
7	P12V_CPU0
8	P12V_CPU0

➢ This connector (ATX +12V) is used only for CPU1 Core Voltage.

C / D) IDE1 / IDE2 Connector(Primary/Secondary]

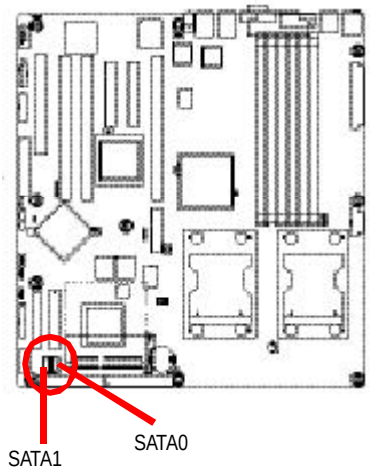
Please connect first harddisk to IDE1 and connect CDROM to IDE2. The red stripe of the ribbon cable must be the same side with the Pin1.





E / F) SATA0/SATA1 (Serial ATA Connectors)

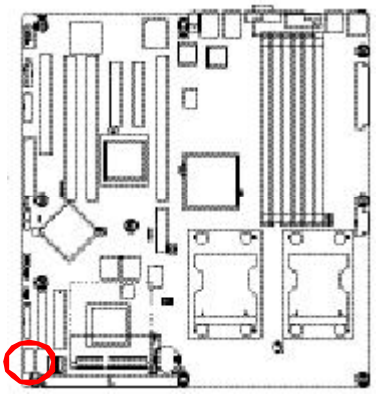
You can connect the Serial ATA device to this connector, it provides you high speed transfer rates (150MB/sec).



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

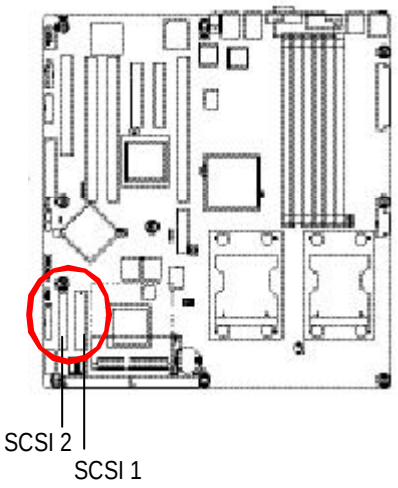
G) USB2 (Front USB Connector)

Be careful with the polarity of the front USB connector. Check the pin assignment while you connect the front USB cable. Please contact your nearest dealer for optional front USB cable.

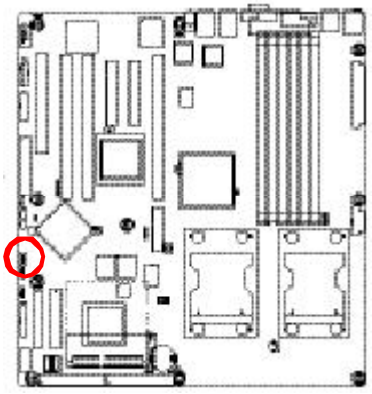


Pin No.	Definition
1	Power
2	GND
3	USB DX-
4	NC
5	USB DX+
6	USB Dy+
7	NC
8	USB Dy-
9	GND
10	USB Over Current

H /I) SCSI1 / SCSI2 (SCSI Connector)

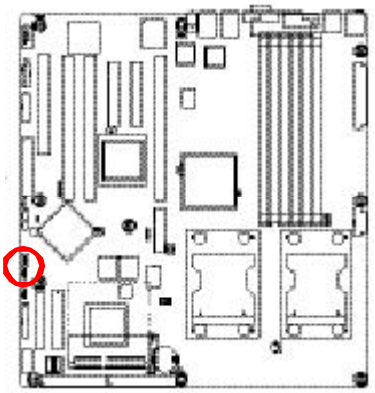


J) IPMB1



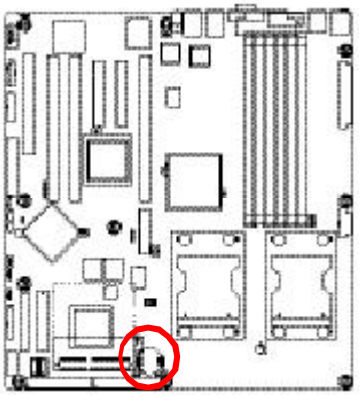
Pin No.	Definition
1	SDA
2	GND
3	SCL

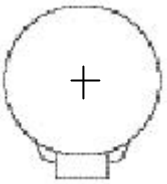
K) JP17 (IPMB2 connector)



Pin No.	Definition
1	GND
2	NC
3	SDA
4	SCL

L) BT1 (Battery)





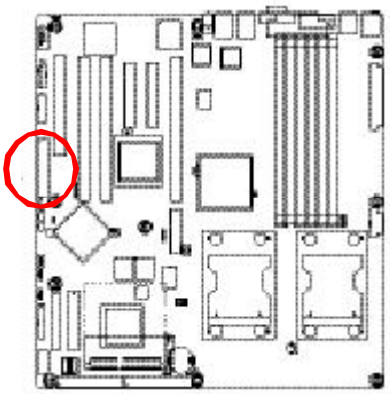
CAUTION

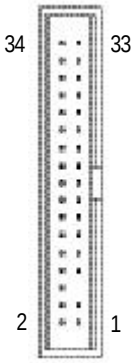
- ❖ Danger of explosion if battery is incorrectly replaced.
- ❖ Replace only with the same or equivalent type recommended by the manufacturer.
- ❖ Dispose of used batteries according to the manufacturer's instructions.

If you want to erase CMOS...
1.Turn OFF the computer and unplug the power cord.
2.Remove the battery, wait for 30 second.
3.Re-install the battery.
4.Plug the power cord and turn ON the computer.

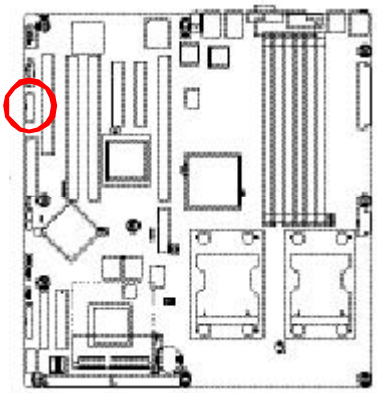
M) FD1 (Floppy Connector)

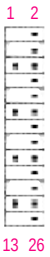
Please connect the floppy drive ribbon cables to FDD. It supports 360K,720K,1.2M,1.44M and 2.88Mbytes floppy disk types. The red stripe of the ribbon cable must be the same side with the Pin1.





N) 295_FP (2X13 Pins Front Panel connector, For GS-SR295 System Only)



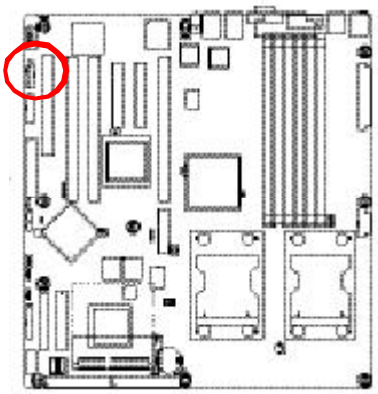


Please connect the power LED, PC speaker, reset switch and power switch of your chassis front panel to the F_PANEL connector according to the pin assignment above.

Pin No	Signal Name	Description
1	PWRLED+	Power LED Signal anode (+)
2	PWRLED-	Power LED Signal cathode(-)
3	ID_PWR	ID Switch Power button
4	KEY	KEY
5	PW+	Soft Power connector anode (+)
6	ID_LED1	ID LED Signal
7	-SERVICE_SW	ID Switch LED Signal
8	SENSOR_SCL	Sensor SM Bus Clock Button
9	SENSOR_SDA	Sensor SM Bus Data Button
10	P1_BUSY_LED-	LAN1 access LED Signal cathode(-)
11	P1_LINK_LED-	LAN1 linked LED Signal cathode(-)
12	P2_BUSY_LED-	LAN2 access LED Signal cathode(-)
13	P2_LINK_LED-	LAN2 linked LED Signal cathode(-)
14	PINREMOVED	Pin Removed
15	HD+	Hard Disk LED anode (+)
16	HD-	Hard Disk LED cathode(-)
17	-NMI_SW	NMI Switch cathode(-)
18	F_SYSRDY_LED	TSystem Fan Fail LED Signal
19	RESET_N	Reset Button
20	SYSTEM_LED-	System LED Signal cathode(-)
21	RESET_N	Reset Button
22	SYSTEM_LED-	System LED Signal cathode(-)
23	RESET_N	Reset Button
24	SYSTEM_LED-	System LED Signal cathode(-)
25	VCC3_DUAL	Standby power button
26	SYSTEM_LED-	System LED Signal cathode(-)

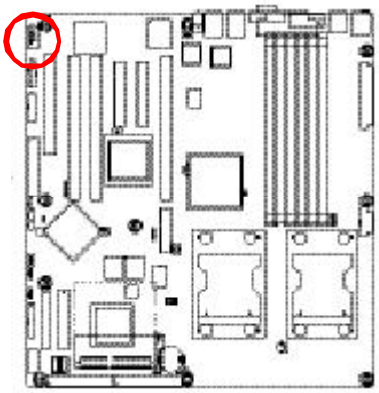
O) GIGA_FP (2X9 Pins Front Panel connector)

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



Pin No	Signal Name	Description
1	HD+	Hard Disk LED anode (+)
2	HD-	Hard Disk LED cathode(-)
3	POWERLED-	Power LED Signal cathode(-)
4	SPK-	External speaker connector cathode(-)
5	POWERLED+	Power LED Signal anode (+)
6	NC	No connect
7	P5V_STBY	+5V Standby
8	NC	No connect
9	POWER BUTTON-	Front Panel Power On/Off Button cathode(-)
10	SPK+	External speaker connector anode (+)
11	POWER BUTTON+	Front Panel Power On/Off Button anode (+)
12	RESET+	Front Panel Reset Switch anode (+)
13	KEY	KEY
14	RESET-	Front Panel Reset Switch cathode(-)
15	STR LED+	Green LED anode (+)
16	STR LED-	Green LED cathode(-)
17	SLEEP BUTTON+	Front Panel Sleep Button Signal anode (+)
18	SLEEP BUTTON-	Front Panel Sleep Button Signal cathode(-)

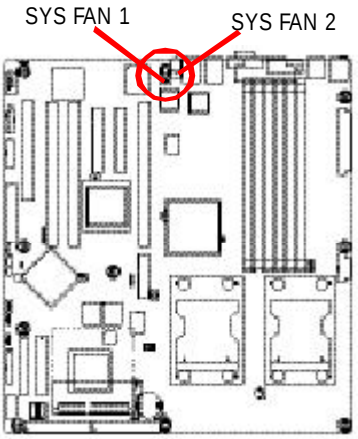
P) COM1



Pin No.	Definition
1	NDCDA2-
2	NDSRA2-
3	NSINA2
4	NRTS42-
5	NSOUTA2-
6	NCTSA2-
7	NDTRA2-
8	NRIA2-
9	GND
10	NC

Q / R) SYS_FAN 1 / 2 (System Fan Connector)

This connector allows you to link with the cooling fan on the system case to lower the system temperature. These connectors are for system use only.



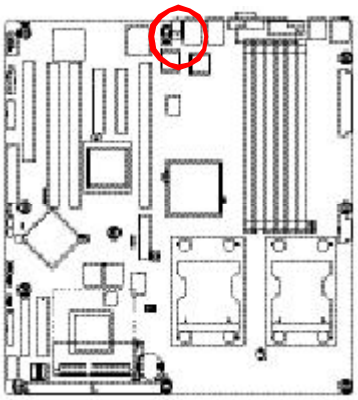
SYS FAN1

Pin No.	Definition
1	GND
2	12V
3	Sense

SYS FAN2

Pin No.	Definition
1	GND
2	12V
3	Sense

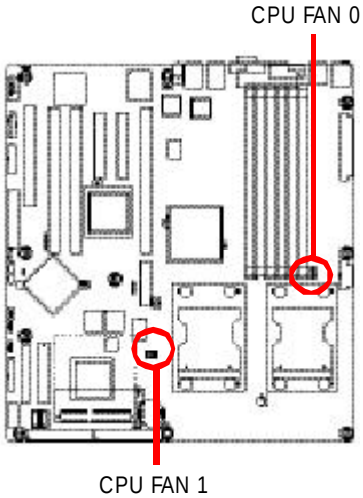
S) IDSW (ID Switch)

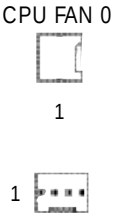


➢ To function this service switch just by pressing the white button from the back I/O.

T / U) CPU_FAN0 /1 (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 1A .

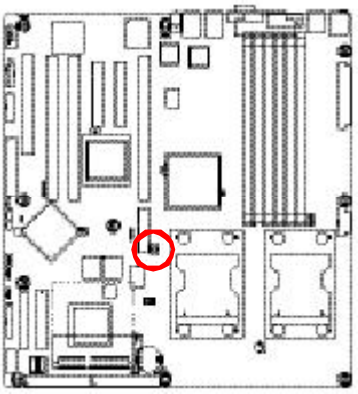




Pin No.	Definition
1	GND
2	12V
3	Sense
4	Control

V) PXH_FAN (Intel 6700 PXH FAN connector)

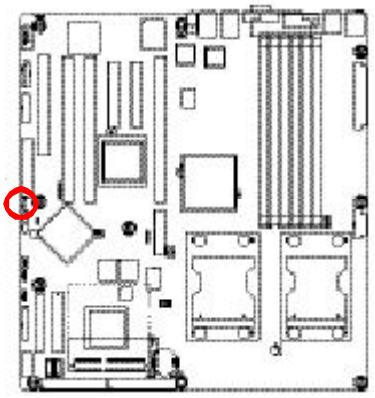
If you installed wrong direction, the Chip Fan will not work. Sometimes will damage the Chip Fan. (Usually black cable is GND)



1

Pin No.	Definition
1	VCC
2	GND

W) EX_LED (HDD LED connector)

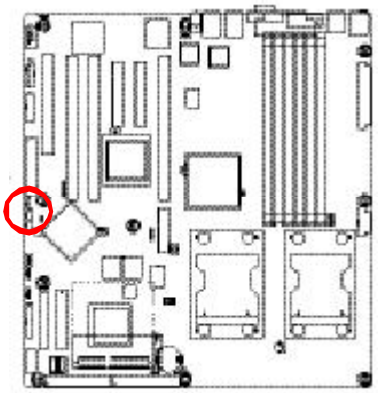


1

Pin No.	Definition
1	GND
2	LED
3	LED
4	GND

X) WOL (Wake on LAN)

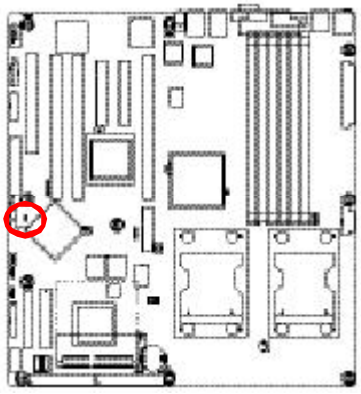
This connector allows the remove servers to manage the system that installed this mainboard via your network adapter which also supports WOL.



1

Pin No.	Definition
1	+5V SB
2	GND
3	Signal

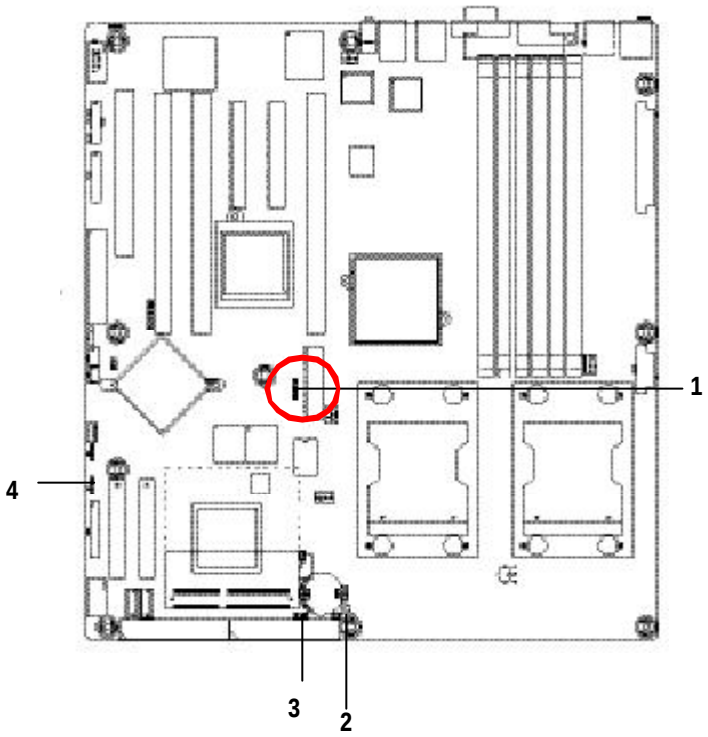
Y) RI (Ring Input)



1

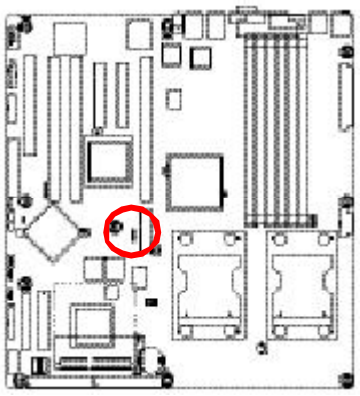
Pin No.	Definition
1	Signal
2	GND

Step 4-3 : Jumper Setting Introduction



1) PLL0/1	3) CLR_CMOS
2) CASEOPEN	4) CMOS_Lock

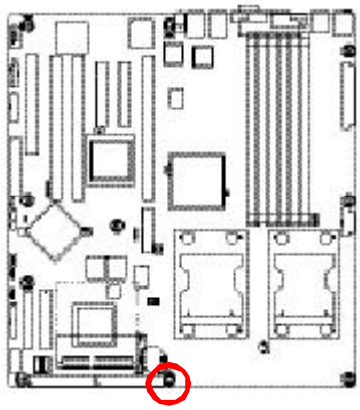
1) PLL0/1 (DDR-266/333 Speed Adjustment Jumper)



Open: Set memory speed at DDR-266

Close: Set memory speed at DDR-333

2) CASEOPEN (Case Open Function)



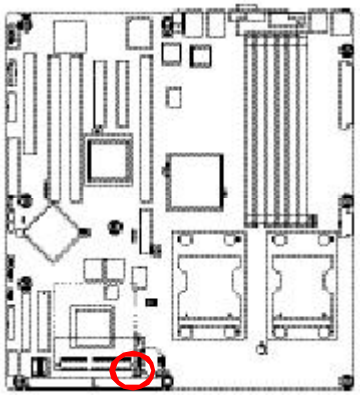
Open: Disable this function

Close: Enable Case open function (Default)

3) CLR_CMOS (Clear CMOS Function)

You may clear the CMOS data to its default values by this jumper.

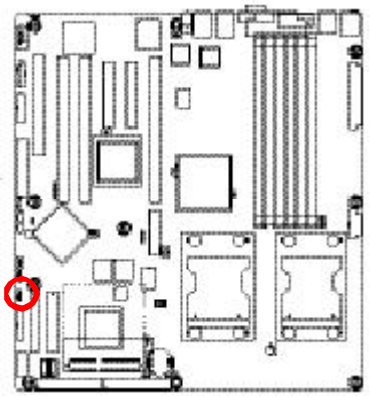
Default value doesn't include the "Shunter" to prevent from improper use this jumper. To clear CMOS, temporarily short 1-2 pin.



1 1-2 close: Clear CMOS

1 2-3 close: Normal (Default)

4) CMOS_Lock (CMOS Write Protect Function)



1  1-2 close: Top Block Lock

1  3-4 close: 2-8 Block Lock

1  Open: Enable CMOS Write Protection Function

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

Power ON the computer and press <F2> immediately will allow you to enter Setup.

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
<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>	Reserved
<F3>	Reserved
<F4>	Reserved
<F5>	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
<F6>	Reserved
<F7>	Load the Optimized Defaults
<F8>	Reserved
<F9>	Reserved
<F10>	Save all the CMOS changes, only for Main Menu

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>.

- **Main**

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

- **Advanced**

  This setup page includes all the items of AWARD special enhanced features.
  (ex: onboard device enable/disable, power management)

- **Boot**

  This setup page include all the items of first boot function features.

- **PC Health Status**

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

- **Security**

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

- **Clk/Voltage**

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

- **Defaults**

  Load Optimized Defaults option and loads preset system parameter values to set the system in its highest performance configurations.

- **Exit**

  Save CMOS value settings to CMOS and exit setup or abandon all CMOS value changes and exit setup.

Main

Once you enter Award BIOS Setup Utility, the Main Menu (Figure 1) will appear on the screen. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

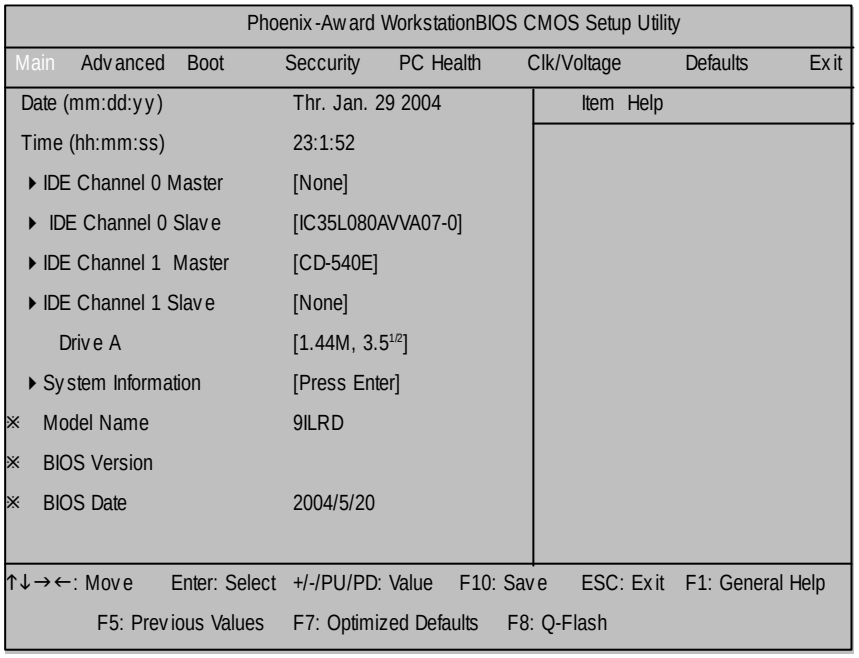


Figure 1: Main

☞ Date

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

- ⏩ Date The date, Monday to Sunday.
- ⏩ 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

Note that ※ indicates Display ONLY

☞ Time

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

☞ IDE HDD Auto Detection

Press [Enter] to auto-detect the HDD's size, head, etc on this channel.

☞ IDE Channel 0 Master, Slave / 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 that will automatically detect HDD type.

Note that thespecifications of your drive must match with the drive table. The hard diskwill 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 andpress <Enter>. Such information should be provided in the documentation form your hard disk vendor or the system manufacturer.

- **Access Mode**

  This option allows user to set hard drive parameters.

  Option: CHS, LBA, Large, Auto (Default Value)

⏩ Capacity	Displays the capacity of HDD
⏩ Cylinder	Number of cylinders
⏩ Heads	Number of heads
⏩ Precmp	Write precomp
⏩ Landind Zone	Landing zone
⏩ Sectors	Number of sectors

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

☞ Drive A

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

⏩ None	No floppy drive installed
⏩ 360K, $5^{1/4}$ in.	5.25 inch PC-type standard drive; 360K byte capacity.
⏩ 1.2M, $5^{1/4}$ in.	5.25 inch AT-type high-density drive; 1.2M byte capacity (3.5 inch when 3 Mode is Enabled).
⏩ 720K, $3^{1/2}$ in.	3.5 inch double-sided drive; 720K byte capacity
⏩ 1.44M, $3^{1/2}$ in.	3.5 inch double-sided drive; 1.44M byte capacity.
⏩ 2.88M, $3^{1/2}$ in.	3.5 inch double-sided drive; 2.88M byte capacity.

☞ System Information

This category includes the information of processor type, speed, total memory and LAN MAC Address.

Advanced

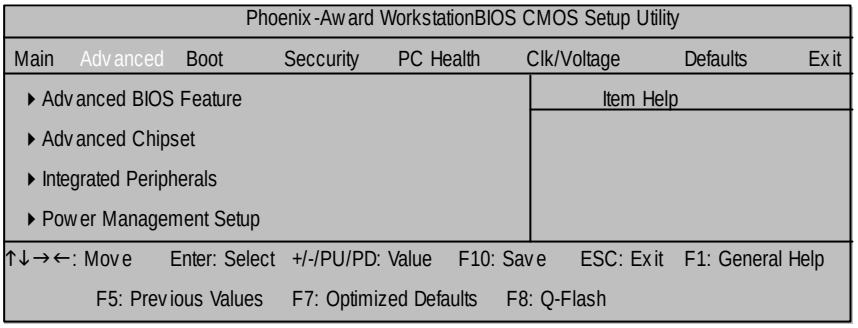


Figure 2: Advanced

Advanced BIOS Feature

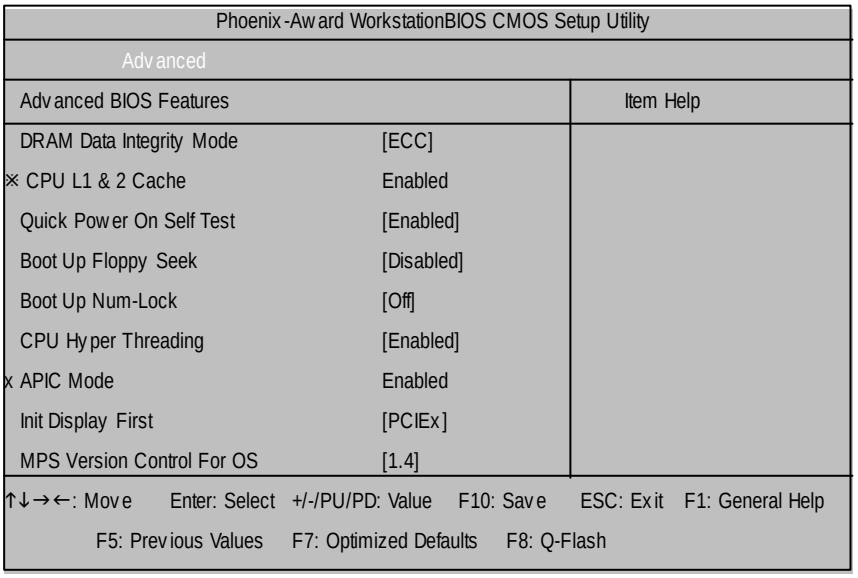


Figure 2-1: Advanced BIOS Features

☞ DRAM Data Integrity Mode

If you are using a Non-ECC DRAM, the mode should to set to Non-ECC and the function is disabled.

- ⏩ ECC — Set DRAM mode at ECC.
- ⏩ Non-ECC — Set DRAM mode at Non-ECC.

☞ 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.

☞ 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.

☞ CPU Hyper Threading

- ⏩ 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.

☞Init Display First

This feature allows you to select the first initation of the monitor display from which card, when you install an AGP VGA card and a PCI VGA card on board.

⏩PCIEx	Set Init Display First to PCI Express Slot. (Default value)
⏩PCI Slot	Set Init Display First to PCI Slot.

☞MPS Version Control For OS

This option allows a user to select MP (Multi Processors) system supported version.

Note: Some old MPS OS support 1.1 version only.

⏩1.4	Support MPS Version 1.4 . (Default Value)
⏩1.1	Support MPS Version 1.1.

Integrated Peripherals

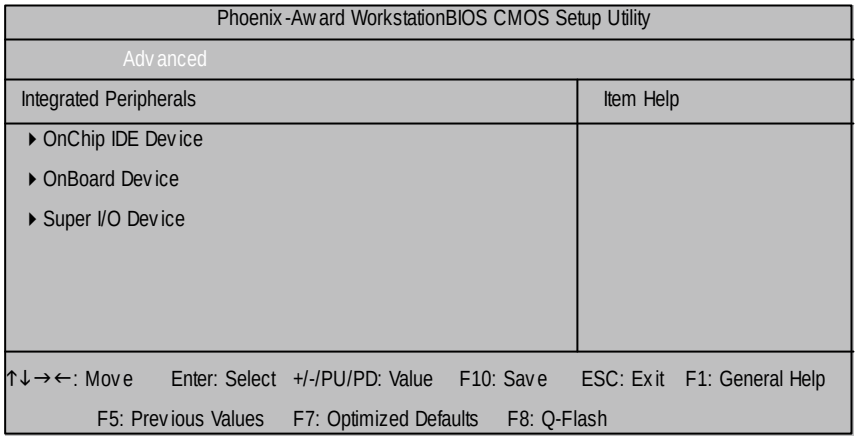


Figure 2-2: Integrated Peripherals

OnChip IDE Device

Phoenix-Award WorkstationBIOS CMOS Setup Utility		
Advanced		
OnChip IDE Device		Item Help
IDE HDD Block Mode	[Enabled]	
IDE DMA transfer access	[Enabled]	
OnChip Primary PCI IDE	[Enabled]	
IDE Primary Master PIO	[Auto]	
IDE Primary Slave PIO	[Auto]	
IDE Primary Master UDMA	[Auto]	
IDE Primary Slave UDMA	[Auto]	
OnChip Secondary PCI IDE	[Enabled]	
IDE Secondary Master PIO	[Auto]	
IDE Secondary Slave PIO	[Auto]	
IDE Secondary Master UDMA	[Auto]	
IDE Secondary Slave UDMA	[Auto]	
*** On-Chip Serial ATA ***		
x On-Chip Serial ATA	[Enabled Mode]	
x Serial ATA Port 0 Mode	SATA0 master	
Serial ATA Port 1 Mode	SATA1 master	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F7: Optimized Defaults F8: Q-Flash		

Figure 2-2-1: OnChip IDE Device

☞ IDE HDD Block Mode

If your IDE hard drive supports block mode, select [Enabled] for automatic detection of the optimal number if block read/writes per sector the drive can supprit.

- ▸▸Enabled Hard Drive supports Block Mode.
- ▸▸Disabled Disable this function.

☞ IDE DMA Transfer Access

- ⏩ Enabled — Enable IDE DMA transfer access. (Default value)
- ⏩ Disabled — Disable this function.

☞ OnChip Promary PCI IDE

- ⏩ Enabled — Enable the function of On-chip primary PCI IDE. (Defualt value)
- ⏩ Disabled — Disable this function.

☞ IDE Primary Master PIO

- ⏩ Auto — Auto detect the IDE primary master PIO. (Default value)
- ⏩ Mode 0 — Select Mode 0 as IDE primary master PIO.
- ⏩ Mode 1 — Select Mode 1 as IDE primary master PIO.
- ⏩ Mode 2 — Select Mode 2 as IDE primary master PIO.
- ⏩ Mode 3 — Select Mode 3 as IDE primary master PIO.
- ⏩ Mode 4 — Select Mode 4 as IDE primary master PIO.

☞ IDE Primary Slave PIO

- ⏩ Auto — Auto detect the IDE primary slave PIO. (Default value)
- ⏩ Mode 0 — Select Mode 0 as IDE primary slave PIO.
- ⏩ Mode 1 — Select Mode 1 as IDE primary slave PIO.
- ⏩ Mode 2 — Select Mode 2 as IDE primary slave PIO.
- ⏩ Mode 3 — Select Mode 3 as IDE primary slave PIO.
- ⏩ Mode 4 — Select Mode 4 as IDE primary slave PIO.

☞ IDE Primary UDMA

- ⏩ Auto — Auto detect the IDE Primary Ultra DMA in the specified IDE channel. (Default)
- ⏩ Disabled — Disable this function.

☞ IDE Primary Slave UDMA

- ⏩ Auto — Auto detect the IDE Primary Slave Ultra DMA in the specified IDE channel. (Default)
- ⏩ Disabled — Disable this function.

☞ OnChip Secondary PCI IDE

- ⏩ Enabled — Enabled the function of Oc-chip secondary PCI IDE. (Default value)
- ⏩ Disabled — Disable this function.

☞ IDE Secondary Master PIO

- ⏩ Auto — Auto detect the IDE secondary master PIO. (Default value)
- ⏩ Mode 0 — Select Mode 0 as IDE secondary master PIO.
- ⏩ Mode 1 — Select Mode 1 as IDE secondary master PIO.
- ⏩ Mode 2 — Select Mode 2 as IDE secondary master PIO.
- ⏩ Mode 3 — Select Mode 3 as IDE secondary master PIO.
- ⏩ Mode 4 — Select Mode 4 as IDE secondary master PIO.

☞ IDE Secondary Slave PIO

- ⏩ Auto — Auto detect the IDE secondary slave PIO. (Default value)
- ⏩ Mode 0 — Select Mode 0 as IDE secondary slave PIO.
- ⏩ Mode 1 — Select Mode 1 as IDE secondary slave PIO.
- ⏩ Mode 2 — Select Mode 2 as IDE secondary slave PIO.
- ⏩ Mode 3 — Select Mode 3 as IDE secondary slave PIO.
- ⏩ Mode 4 — Select Mode 4 as IDE secondary slave PIO.

☞ IDE Secondary Master UDMA

- ⏩ Auto — Auto detect the IDE Primary Master Ultra DMA in the specified IDE channel. (Default value)
- ⏩ Disabled — Disable this function.

☞ IDE Secondary Slave UDMA

- ⏩ Auto — Auto detect the IDE Primary Slave Ultra DMA in the specified IDE channel. (Default value)
- ⏩ Disabled — Disable this function.

☞ On-Chip Serial ATA Setting

- **On-Chip Serial ATA**
  - ⏩ Auto — Auto arrange by BIOS.
  - ⏩ Combined Mode — PATA and SATA are combined. Max. of 2 IDE drives in each channel.
  - ⏩ Enhanced Mode — Enable both SATA and PATA. Max. of 6 IDE drives are supported. (Default value)
  - ⏩ SATA Only — SATA is operating in legacy mode.
  - ⏩ Disabled — Disable this function.

- **Serial ATA Port 0 Mode**
  - ⏩ Primary Master — Set Serial ATA Port 0 as Primary Master. (Default)
  - ⏩ Primary Slave — Set Serial ATA Port 0 as Primary Slave.
  - ⏩ Secondary Master — Set Serial ATA Port 0 as Secondary Master.
  - ⏩ Secondary Slave — Set Serial ATA Port 0 as Secondary Slave.
  - ⏩ SATA0 Master — Set Serial ATA Port 0 as SATA0 Master.
  - ⏩ SATA1 Master — Set Serial ATA Port 0 as SATA1 Master.

- **Serial ATA Port 1 Mode**
  - ⏩ Primary Slave — Set Serial ATA Port 1 as Primary Slave. (Default)
  - ⏩ Primary Slave — Set Serial ATA Port 1 as Primary Slave.
  - ⏩ Secondary Master — Set Serial ATA Port 1 as Secondary Master.
  - ⏩ Secondary Slave — Set Serial ATA Port 1 as Secondary Slave.
  - ⏩ SATA0 Master — Set Serial ATA Port 1 as SATA0 Master.
  - ⏩ SATA1 Master — Set Serial ATA Port 1 as SATA1 Master.

Onboard Device

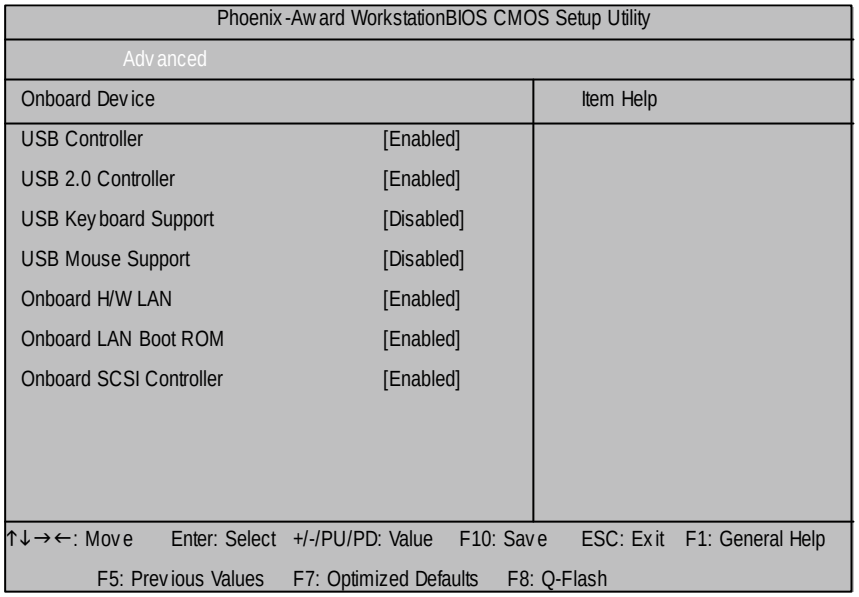


Figure 2-2-2: Onboard Device

☞USB Controller

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

☞USB 2.0 Controller

This item provide the function for user to enable/disable EHCI controller only. THis BIOS itself may / may not have high speed USB support built-in, the support will be automatically turn on when high speed device were attached.

- ⏩Enabled Enable USB 2.0 Controller function. (Default)
- ⏩Disabled Disable USB 2.0 Controller function.

☞USB Keyboard Support

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

☞USB Mouse Support

- ⏩Enabled Enable USB Mouse Support.
- ⏩Disabled Disable USB Mouse Support. (Default value)

☞Onboard H/W LAN

- ⏩Enabled Enable onboard H/W LAN. (Default value)
- ⏩Disabled Disable this function.

☞Onboard LAN Boot ROM

Decide whether to invoke the boot ROM of the onboard chip.

- ⏩Enabled Invoke the boot ROM of the onboard chip.
- ⏩Disabled Disable this function. (Default value)

☞Onboard H/WSCSI Controller

- ⏩Enabled Enable onboard H/W SCSI controller. (Default value)
- ⏩Disabled Disable this function.

Super I/O Device

Phoenix-Award WorkstationBIOS CMOS Setup Utility		
Advanced		
Super I/O		Item Help
Onboard FDC Controller	[Disabled]	
Onboard Serial Port 1	[3F8/IRQ4]	
Onboard Serial Port 2	[2F8/IRQ3]	
UART Mode Select	[Normal]	
x UR2 Duplex Mode	Half	
Onboard Parallel Port	[378/IRQ7]	
Parallel Port Mode	[SPP]	
xECP Mode Use DMA	3	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F7: Optimized Defaults F8: Q-Flash		

Figure 2-2-3: Super I/O 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 set IO address to 3F8.
- ⏩2F8/IRQ3 Enable onboard Serial port 1 and set IO address to 2F8.
- ⏩3E8/IRQ4 Enable onboard Serial port 1 and set IO address to 3E8. (Default value)
- ⏩2E8/IRQ3 Enable onboard Serial port 1 and set IO address to 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 set IO address to 3F8.
- ⏩2F8/IRQ3 — Enable onboard Serial port 2 and set IO address to 2F8. (Default value)
- ⏩3E8/IRQ4 — Enable onboard Serial port 2 and set IO address to 3E8.
- ⏩2E8/IRQ3 — Enable onboard Serial port 2 and set IO address to 2E8.
- ⏩Disabled — Disable onboard Serial port 2.

☞UART Mode Select

- ⏩Normal — Using as standard serial port. (Default value)
- ⏩IrDA — Using as IR and set to IrDA mode.
- ⏩ASKIR — Using as IR and set to ASKIR mode.
- ⏩SCR — Using as Smart Card Interface.

☞UR2 Duplex Mode

This entry can be adjust when user select [IrDA] in UART Mode Selection.

- ⏩Full — IR function Duplex Full.
- ⏩Half — IR function Duplex Half.

☞Onboard Parallel Port

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

☞Parallel Port 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.
⏩Normal	Using Parallel port as Normal.

☞ECP Mode Use DMA

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

The options: 0,1,2,3 (Default value)

Boot

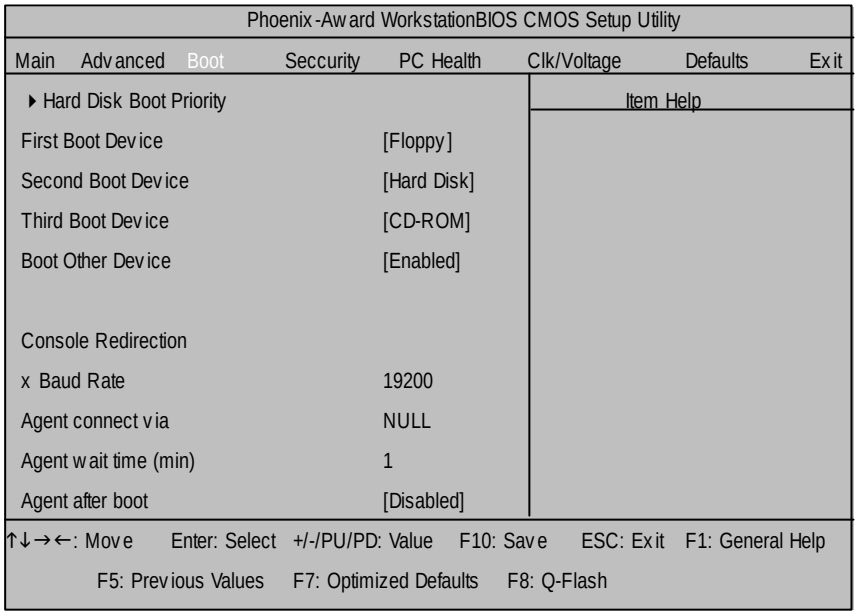


Figure 3: Boot

☞ HardDisk Boot Priority

These three fields determines which type of device the system attempt to boot from after **BIOS Post** completed. Specifies the boot sequence from the available devices. If the first device is not a bootable device, the system will seek for next available device.

☞ First / Second/ Third Boot Device

Select the first/second/t\hird boot device

⏩ 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.
⏩ ZIP100	Select your boot device priority by ZIP100.
⏩ 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.
⏩ LAN	Select your boot device priority by LAN.
⏩ Disabled	Select your boot device priority by Disabled.

☞ Boot Other Device

Select the specified boot dev ice priority.

⏩ Enabled	Enable the specified boot device.
⏩ Disabled	Disable the specified boot device.

☞ Console Redirection

⏩ Enabled	Attempt the redirect console via COM port.
⏩ Disabled	Attempt to redirect console when keyboard absent. (Default vaule)

☞ Baud Rate

Enable the specified of C. R Port Baud Rate.

⏩ 300	Enable the specific baud rate at 300.
⏩ 1200	Enable the specific baud rate at 1200.
⏩ 9600	Enable the specific baud rate at 9600.
⏩ 19200	Enable the specific baud rate at 19.2K. (Default value)
⏩ 38400	Enable the specific baud rate at 38.4K.
⏩ 57600	Enable the specific baud rate at 57.6K.
⏩ 115200	Enable the specific baud rate at 115.2K.

☞Agent wait time

Timeout wait for connection

- Option: 1 (Default value), 2, 4, 8

☞Agent after boot

- Enabled — Enable this option to keep Agent running after OS boot.
- Disabled — Disable this function. (Default value)

Power Management Setup

Phoenix-Award WorkstationBIOS CMOS Setup Utility		
Advanced		
Power Management Setup		Item Help
ACPI Function	[Enabled]	
Soft Off by PWR-BTTN	[Instant-Off]	
PME Event Wake Up	[Disabled]	
PWRON After PWR-Fail	[Off]	
Wakeup On Ring	[Disabled]	
Resume By Alarm	[Disabled]	
x Date (of Month) Alarm	0	
x Time (hh: mm: ss)	0:0:0	
POWER ON Function	[Any Key]	
x KB Power On Password	Enter	
x Hot Key Power On	Ctrl + F1	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F7: Optimized Defaults F8: Q-Flash		

Figure 2-4: Power Management Setup

☞ ACPI Function

- ⏩ Enabled — Enable ACPI function. (Default Value)
- ⏩ Disabled — Disable this function.

☞ Soft-off by PWR-BTTN

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

☞ Wake Up On Ring

- ⏩ Disabled — Disable Wake Up On Ring function. (Default value)
- ⏩ Enabled — Enable Wake Up On Ring function.

☞ PME Event Wake Up

- ⏩ Enabled — Enable PME Event wake up function. (Default value)
- ⏩ Disabled — Disable PME event wake up function.

☞ 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)
- ⏩ 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)

☞ Power On Function

⏩Password	Enter from 1 to 5 characters to set the Keyboard Power On Password.
⏩Hot Key	Press specified Hot Keys (Described in the following category) to power on system.
⏩Mouse Move	Move mouse to power system.
⏩Mouse Click	Mouse double click to power system.
⏩Any Key	Press any key to power on system. (Default value)
⏩BUTTON ONLY	Press the power button to power on system.
⏩Keyboard 98	if your keyboard has "keyboard 98" button, you can press the key to power on your system.

▶ KB Power ON Password

This entry can be adjust when user select [Password] at Power On Function.

Press [Enter] to set password.

▶ Hot Key Power ON

This entry can be adjust when user select [Hot Key] at Power On Function.

The hot keys options are: [Ctrl-F1], [Ctrl-F2], [Ctrl-F3], [Ctrl-F4], [Ctrl-F5], [Ctrl-F6], [Ctrl-F7], [Ctrl-F8], [Ctrl-F9], [Ctrl-F10], [Ctrl-F11] and [Ctrl-F112].

This Default setting is [Ctrl-F1].

Security

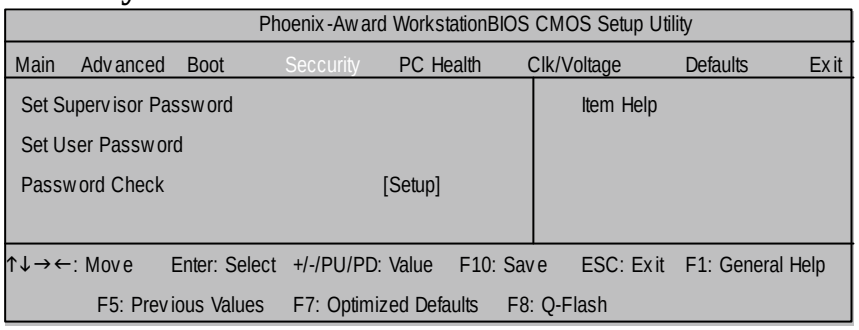


Figure 4: Security

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 entered 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.

☞ Password Check

Select whether the password is required every time when the system boots or only when user enter the setup.

PC Health

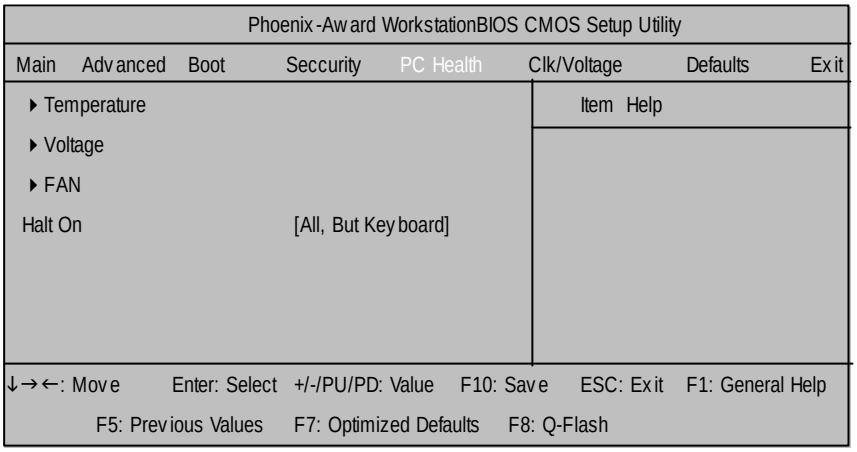


Figure 5: PC Health

☞ **Temperature**

▸▸Display the current CPU0/1 temperature, shutdown temperature, SCSI controller, PCI connector, SDRAM socket and LAN controller ambient temperature.

☞ **Voltage: CPU 0/1 VCORE/ +12V/ +1.2V/ +1.5V/ +3.3V/ +5V/ +1.8V/ +2.5V/ +1.25V / +1.0V/ -12V/ STB +3.3V/ 5VSB/ VBAT**

▸▸Detect system's voltage status automatically.

☞ **FAN (RPM)**

▸▸Display the current CPUs and System 1/2 FAN speed.

☞ 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 will be stopped.
⏩All, But Keyboar	The system boot will not stop for a keyboard error; it will stop for all other errors. (Default value)
⏩All, But Diskette	The system boot will not stop for a disk error; it will stop for all other errors.
⏩All, But Disk/Key	The system boot will not stop for a keyboard or disk error; it will stop for all other errors.

CLK / Voltage

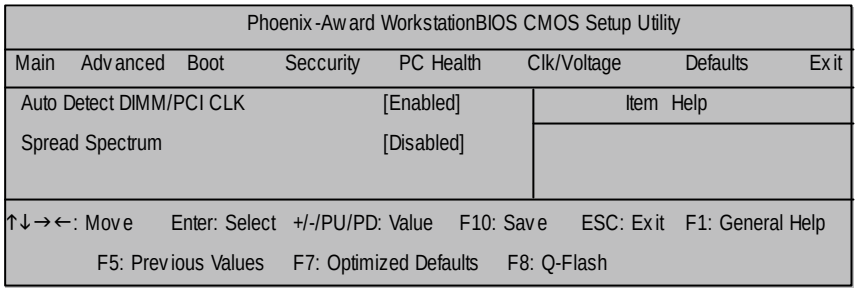


Figure 6: Clk/Voltage

☞ Auto Detect DIMM/PCI Clk

⏩Enabled Disable PCI slot clock if no PCI device is plugged into corresponding PCI slot. (Default value)

⏩Dsiabled Enable all PCI slot clocks even no PCI device is plugged into any PCI slot.

☞ Spread Spectrum

When the motherboard's clock generator pulses, the extreme values (spikes) of the pulses creates EMI (Electromagnetic Interference). The Spead Spectrum function reduces the EMI generated by modulating the pulses so that the spikes of the pulses are reduced to flatter curves. It does so by varying the frequency so that it doesn't use any particular frequency for more than a moment. This reduces interference problems with other electronics in the area.

⏩Enabled Enable specific spread spectrum.

⏩Dsiabled Disable this function. (Default value)

Defaults

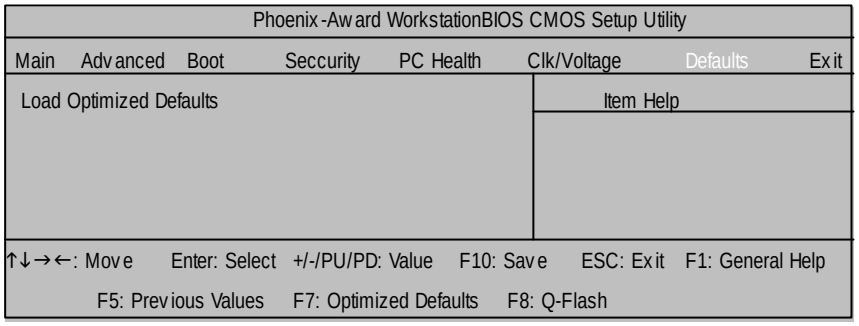


Figure 7: Defaults

☞**Load Optimized Defaults**

When you press <Enter> on this item, you will get a confirmation dialog box with a message as below:

Exit

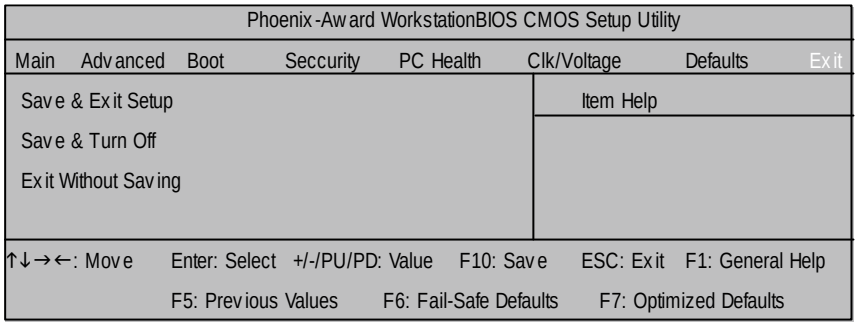


Figure 8: Exit

☞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.

☞Save & Turn Off

Type "Y" will quit the Setup Utility and save the user setupvalue to RTC CMOS and turn of power automatically.

Type "N" will return to Setup Utility.

☞Exit Without Saving

Type "Y" will abandon all data and quit without saving.

Type "N" will return to Setup Utility.

Chapter 4 SCSI BIOS and Configuration Utility

Overview

A SCSI BIOS is the bootable ROM code that manages SCSI hardware resources. The LSI SCSI BIOS integrates with a standard system BIOS to extend the standard disk service routine that is provided through INT13h. During the boot time initialization, the SCSI BIOS determines if the system BIOS has already installed other hard disks, such as an IDE drive. If so, the SCSI BIOS maps any SCSI drives it finds behind the already-installed drive(s). Otherwise, the SCSI BIOS installs drives starting with the system boot drive and the system boots from a drive controlled by the SCSI BIOS.

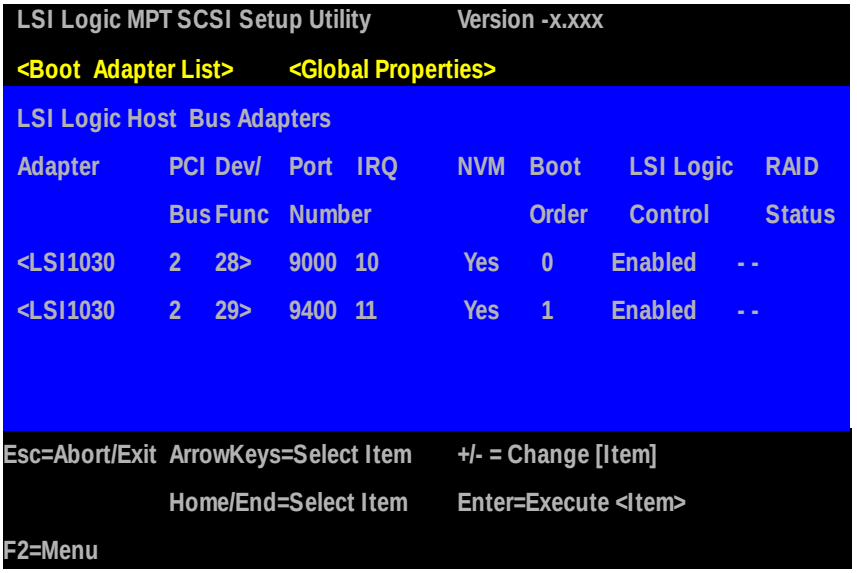
ENTERING SETUP

Power ON the computer and press Ctrl+C immediately will allow you to enter Setup.

4-1. Main Menu

When invoked, the Configuration Utility (CU) first displays the Main Menu, which contains a scrolling list of up to 256 LSI Logic PCI to SCSI host adapters and information about each of them. Use the **arrow keys** to select an adapter. Press **Enter** to view and modify the properties of the selected adapter, and to gain access to the attached devices. The CU can only access adapters with LSI Logic Control enabled. After selecting an adapter and pressing **Enter**, the CU scans the adapter's SCSI bus and then displays the Adapter Properties screen.

The Main Menu contains two selections: Boot Adapter List and Global Properties. The Boot Adapter List allows selection and ordering of boot adapters. The Global Properties allows changes to global settings.



Main Menu Field Description

Field	Description
Adapter	Indicates the specific family of LSI Logic Host Adapters.
PCI Bus	Indicates the PCI Bus number assigned by the system BIOS to an adapter. The PCI Bus number can be between 0x00 and 0xFF.
Dev/Func	Indicates the PCI Device and PCI Function assigned by the system BIOS to an adapter. Bits [2:0] of this 8-bit value designate the PCI Function. Bits [7:3] designate the PCI Device.
Port Number	Indicates the I/O Port Number that communicates with an adapter. The system BIOS assigns this number.
IRQ	Indicates the Interrupt Request Line for the adapter. The system BIOS assigns this value.
NVM	Indicates whether an adapter has nonvolatile memory. The possible values are es or No.
Boot Order	Indicates the relative boot order of an adapter. The BIOS traverses up to four adapters in the specified order in search of bootable media. The possible values are 0, 1, 2, or 3. The Boot Adapter List Menu modifies this item.
LSI Logic Control	Indicates whether an adapter is eligible for LSI Logic software control or is reserved for control by non-LSI Logic software.

4-1-1. Boot Adapter List

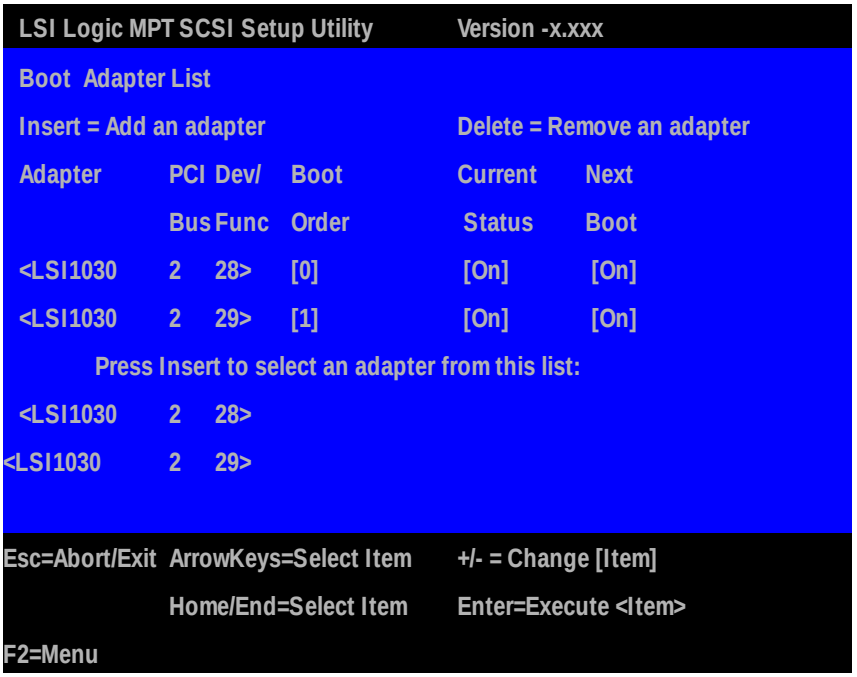


Figure 4-1-1: Boot Adapter List

The Boot Adapter List Menu specifies the adapter boot order when more than one OS adapter is present. The CU can designate up to four adapters as bootable. To access the Boot Adapter Menu, select <Boot Adapter List> on the Main Menu and press enter. The CU then displays the Boot Adapter List Menu.

To add an adapter to the boot list, press Insert while on the Boot Adapter List. This locates the cursor on the adapter select list. Use the arrow keys to select an adapter and press Enter to add it to the end of Boot Adapter List. To remove an adapter from the boot list, select the adapter and press Delete. Select the adapter and press the "-" key to decrease the adapter ¡¦s relative order in the boot list, or press the "+" key to increase he adapter ¡¦s relative order in the boot list.

Boot Adpater List Menu Field Description

Field	Description
Adapter	Indicates the specific family of LSI Logic Host Adapters.
PCI Bus	Indicates the PCI Bus number assigned by the system BIOS to an adapter. The PCI Bus number can be between 0x00 and 0xFF.
Dev/Func	Indicates the PCI Device and PCI Function assigned by the system BIOS to an adapter. Bits [2:0] of this 8-bit value designate the PCI Function. Bits [7:3] designate the PCI Device.
Boot Order	Indicates the relative boot order of an adapter. The BIOS traverses up to four adapters in the specified order in search of bootable media. The possible values are 0, 1, 2, or 3. The Boot Adapter List Menu modifies this item.
Current Status	Indicates if an adapter in the boot list was enabled during the most recent boot.The Fusion-MPT SCSI BIOS ignores disabled adapters and their attacheddevices, but these adapters and devices are visible to the CU.
Next Boot	Specifies whether to enable an adapter upon the next boot.

4-1-2. Global Properities

The Global Properties Menu allows configuration of the Display and Video modes, as well as a pause if the CU displays an alert message. To access the Global Properties Menu, select <Global Properties>he Main Menu and press Enter. The system then displays the on Global Properties Menu.

Figure 4-1-2: Global Properities

Global Properities Menu Field Description

Field	Description
Pause When Boot Alert Displayed	This option specifies whether or not the CU pauses for user acknowledgement after displaying an alert message during boot. To continue after displaying a message, specify ' No' . To wait for the user to press any key after displaying a message, specify ' Yes' .
Boot Information Display Mode	This option specifies the information display mode of the BIOS. It controls how much adapter and device information the system displays during boot. You can set the Display Mode to either ' Terse' or ' Verbose' . Specify the Terse mode to display the minimum amount of information. Specify theVerbose mode to display detailed information.
Negotiate with Devices	This option sets the default value for synchronous and wide negotiations with specified devices. Options are: All, None, or Supported.
Video Mode	This option specifies the default video mode for the CU. You can set the Video Mode to either ' Color' or ' Monochrome' . The monochrome settingenhances readability on a monochrome monitor.
Support Interrupt	This option allows the ability to stop the system from hanging on INT40.
<Restore Defaults>	Pressing Enter obtains default settings.

4-1-3. Adapter Properties Menu

The Adapter Properties Menu allows you to view and modify adapter settings. It also provides access to an adapter¡¦s device settings. To access the Adapter Properties Menu, select the adapter on the Main Menu and press enter. The CU then displays the Adapter Properties Menu for the selected adapter.

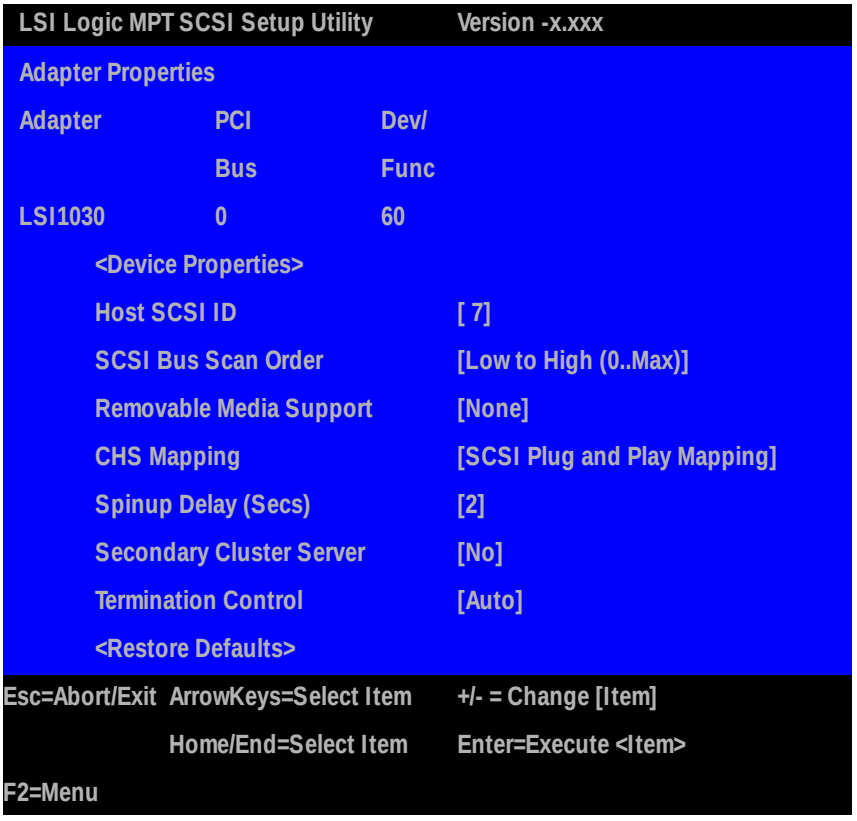


Figure 4-1-3: Adapter Properities

Adapter Properties Menu Field Description

Field	Description
<Device Properties>	Press Enter to view and modify device properties.
<Mirroring Properties>	Press Enter to view and modify the mirroring properties. The CU grays-out this field if the Integrated Mirroring feature is currently unavailable. This could result from using firmware that does not support the IM feature or having an incompatiblefrom using firmware that does not support the IM feature or having an incompatible setup.
<Synchronize Mirror>	If a mirrored volume currently exists, press enter to Whole resynchronize the volume. The CU greys-out this field if the current firmware in use does not support the IM feature or if the existing mirrored volume does not need resynchronization.
Host SCSI ID	This field indicates the SCSI identifier of an adapter. LSI Logic recommends setting this field to the highest priority SCSI identifier, which is SCSI ID 7.
SCSI Bus Scan Order	This field indicates the order in which to scan SCSI identifiers on an adapter. Changing this item affects drive letter assignments if more than one device is attached to an adapter and might create a conflict with an operating system that automatically assigns drive order.
Removable Media Support	This field specifies the removable media support option for an adapter. There are three possible settings: None, Boot Drive Only, and With Media Installed. ' None' indicates there is no removable media support, whether the drive is selected as first (BBS), or is the first in the scan order (non-BBS). ' A Boot Drive Only' provides removable media support for a removable hard drive if it is first in the scan order. ' With Media Installed?¦ provides removable media regardless of the drive ordering.' With Media Installed' provides removable media regardless of the drive ordering.

Adapter Properties Menu Field Description (Cont.)

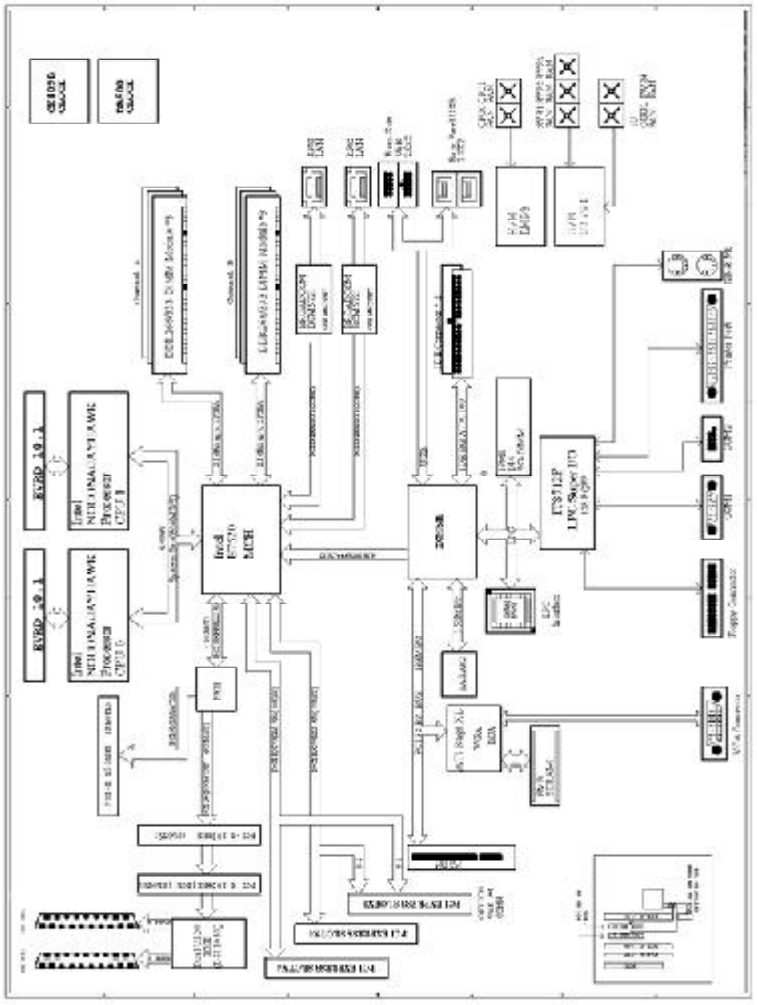
Field	Description
CHS Mapping	This field defines the Cylinder Head Sector (CHS) values mapping method. CHS Mapping allows two settings: ' SCSI Plug and Play Mapping' (Default value) and ' Alternate CHS Mapping' . SCSI Plug and Play Mapping automatically deter mines the most efficient and compatible mapping. Alternate CHS Mapping utilizes an alternate method that might be required if a device is moved betweenadapters from different vendors. These options have no effect after the FDISK command partitions the disk. To change the CHS Mapping on a partitioned disk, use the FDISK command to delete all partitions and reboot the system to clear the memory. Be certain that the correct disk is the target of an FDISK command.
Spinup Delay	This field indicates the number of seconds to wait between spin-ups of devices attached to an adapter. Staggered spin-ups balance the electrical current load on the system during boot. The default value is 2 seconds, with choices between 1 and 10 seconds.
Secondary Cluster Server	The options for this field are ' Yes' or ' No' (Default). Setting this field to Yes indicates that the Fusion-MPT adapter shares devices with another adapter, and prevents the MPT SCSI BIOS from issuing SCSI Bus resets. This is a equirement for the Microsoft Cluster Server.
Termination Control	This field indicates if an adapter has automatic termination control. The options for this field are ' Auto' or ' Off' . ' Auto' indicates that the adapter automatically determines to enable or disable its termination. ' Off' indicates that termination at the adapter is off and that other devices at the ends of the SCSI bus must terminate the bus. If Auto is grayed out, it means that termination is not programmable.
Restore Defaults	To obtain default settings, press Enter.

4-2. Exiting the SCSI Setup Utility

Because some changes only take effect after the system reboots, it is important to exit the configuration utility properly. To exit, press Esc and respond to the verification prompts. Some changes might be lost if you reboot before properly exiting the Configuration Utilities.

Chapter 5 Technical Reference

Block Diagram



Chapter 5 Driver Installation

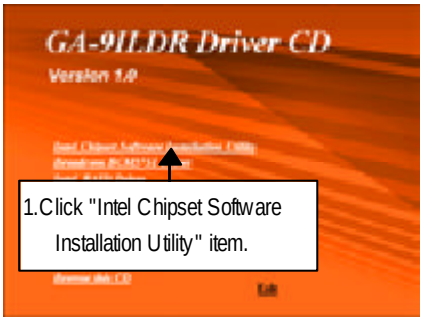
A. Intel Chipset Software Installation Utilities

Insert the driver CD-title that came with your motherboard into your CD-ROM driver, the driver CD-title will auto start and show a series of Setup Wizard dialog boxes. If not, please double click the CD-ROM device icon in "My computer", and execute the setup.exe.

Installation Procedures:

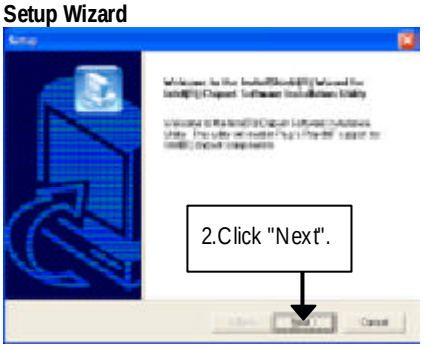
1. The CD auto run program starts, **Double click** on "Intel Chipset Software Installation Utilities" to start the installation.
2. Then, a series of installation wizards appear. Follow up the wizards to install the drivers.
3. Setup completed, click "Finish" to restart your computer.

Auto Run windows



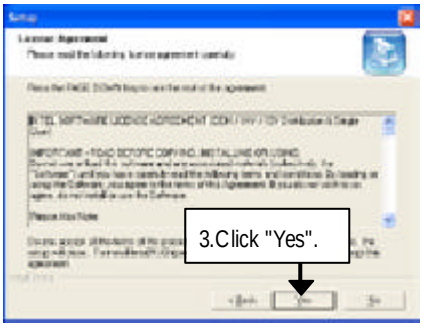
(1)

Setup Wizard



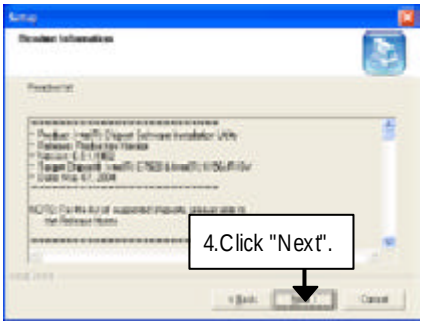
(2)

License Aggremment



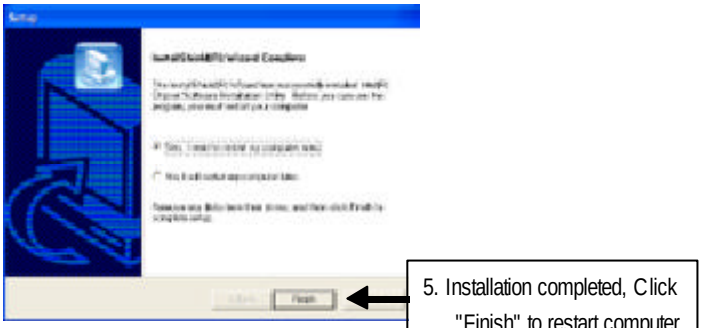
(3)

Readme Information



(4)

Installation Completed



(5)

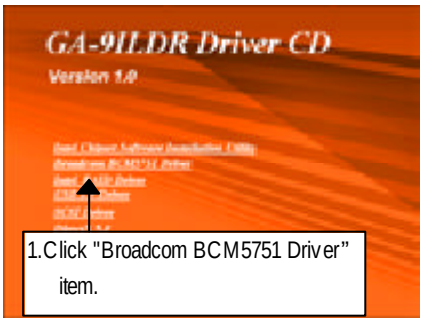
B. Broadcom BCM5751 Feature Application Installation

Insert the driver CD-title that came with your motherboard into your CD-ROM driver, the driver CD-title will auto start and show a series of Setup Wizard dialog boxes. If not, please double click the CD-ROM device icon in "My computer", and execute the setup.exe.

Installation Procedures:

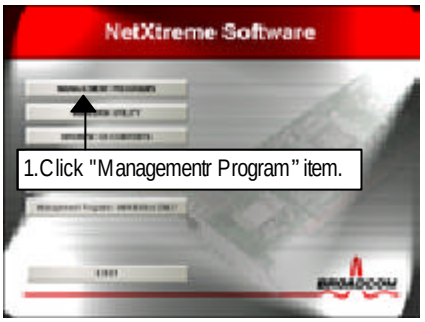
1. The CD auto run program starts, **Double click** on "Broadcom BCM5751" to start the installation.
2. Then, a series of installation wizards appear. Follow up the wizards to install the applications.

Auto Run windows



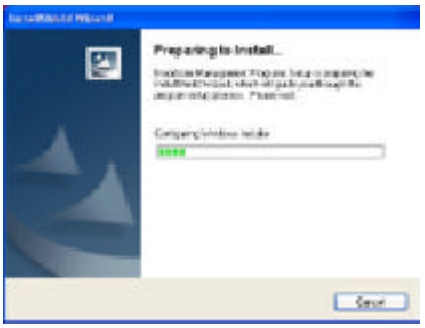
(1)

Broadcom BCM5751 Driver



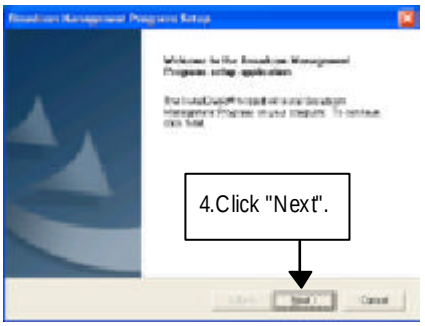
(2)

Preparing to install



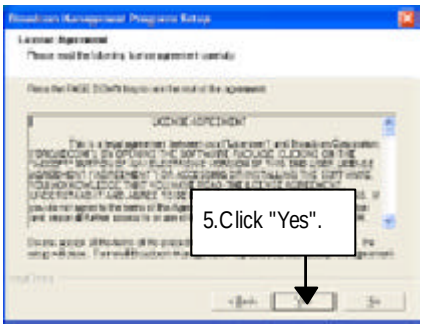
(3)

Setup program

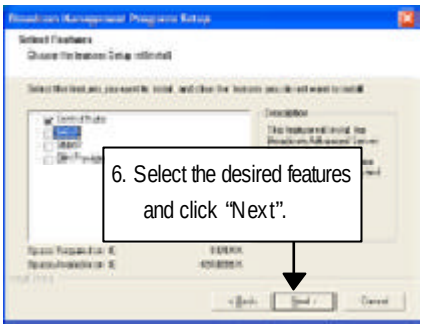


(4)

License Aggremment



Selecting features



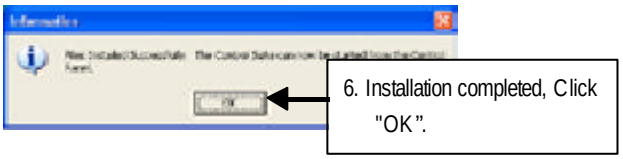
Selecting Features

Control Suite This feature will install Broadcom Advanced Control Suite graphical user interface. This appliction contains a set of utilities supporting diagnostic, monitoring, and configuration for Broadcom network adapters.

BASP This feature will install Broadcom Advanced Server Program. This NDIS intermediates driver software allow for load balancing and failover, and VLAN capabilities.

SNMP This feature will install SNMP sub-agent, allowing he SNMP manager to monitor the Broadcom Network Adapters. Note that the the Microsoft SNMP Service must be running for this feature to function properly.

CIM Provider This feature will install Commond Information Model provider that presents network adapter information to WMI based management applications.



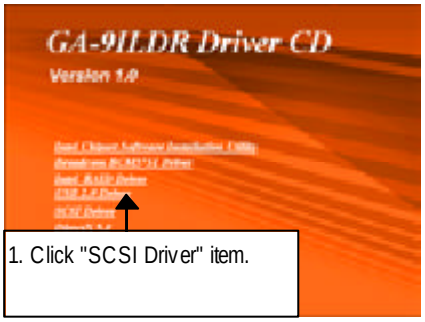
C. SCSI Driver Installation

Insert the driver CD-title that came with your motherboard into your CD-ROM driver, the driver CD-title will auto start and show a series of Setup Wizard dialog boxes. If not, please double click the CD-ROM device icon in "My computer", and execute the setup.exe.

Installation Procedures:

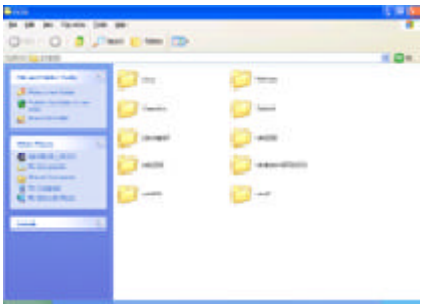
1. The CD auto run program starts, **Double click** on "SCSI Driver" to start the installation.
2. Select the specific folder refering to your operating system.

Auto Run windows



(1)

Operating System Menu



(2)

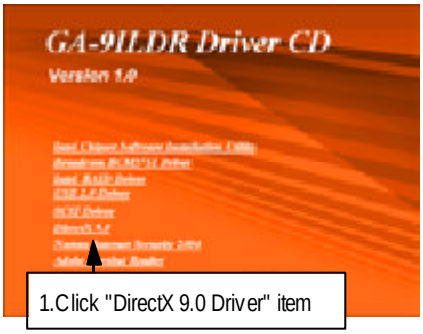
D. DirectX 9.0 Driver Installation

Insert the driver CD-title that came with your motherboard into your CD-ROM driver, 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.

Installation Procedures:

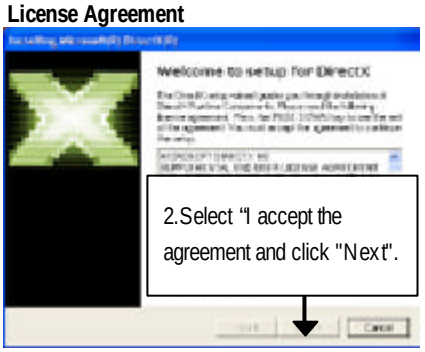
1. The CD auto run program starts, **Double click** on "Directx9.0" to start the installation.
2. Then, a series of installation wizards appear. Follow up the wizards to install the drivers.
3. Setup completed, click "Finish" to restart your computer.

Auto Run windows



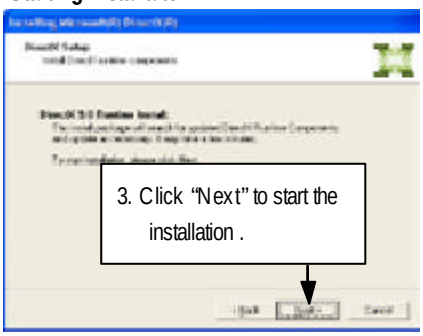
(1)

License Agreement



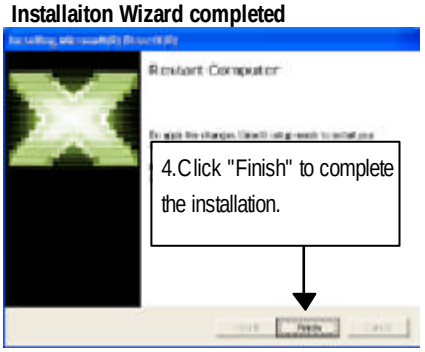
(2)

Starting Installaiton



(3)

Installaiton Wizard completed



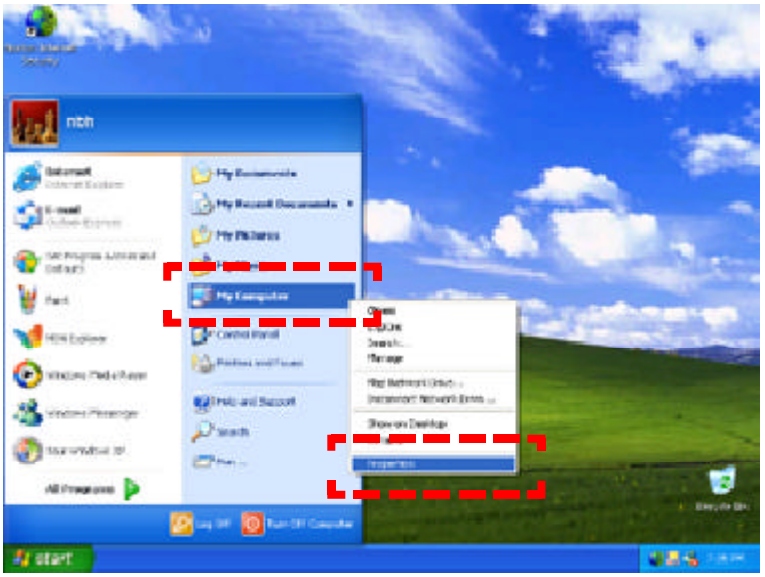
(4)

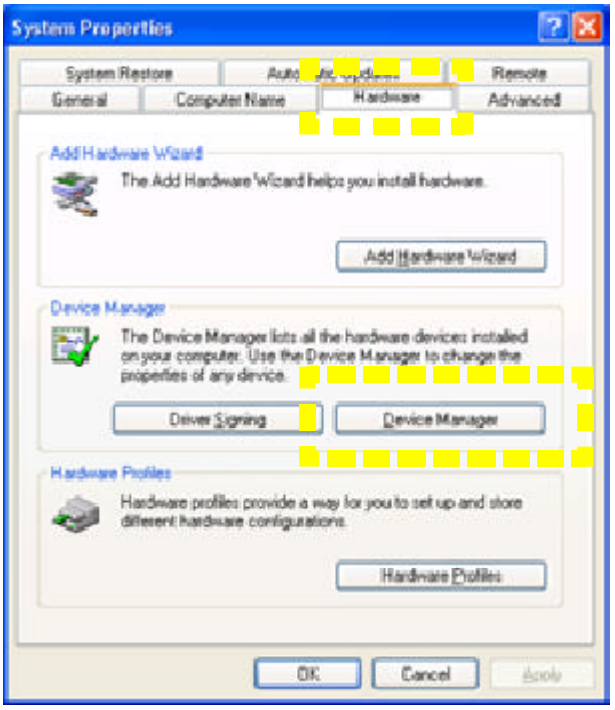
E. If you don't find specific drivers

If you don't find specific drivers that you want to install, please take following steps install desired derivers.

Installation procedures

Step 1 Insert the driver CD-title that came with your motherboard into your CD-ROM driver.
Step 2 Go to the Desktop of your computer
Step 3 Go to Start --> My Computer
Step 4 Right click "My Computer" and select Properities.
Step 5 Select "Hardware" tab and click on "Device Manager"
Step 6 Double click the hardware device with question mark to install the required drivers.




System Properties
System Restore
Remote
General
Computer Name
Hardware
Advanced
Add Hardware Wizard
The Add Hardware Wizard helps you install hardware.
Add Hardware Wizard
Device Manager
The Device Manager lists all the hardware devices installed on your computer. Use the Device Manager to change the properties of any device.
Driver Signing
Device Manager
Hardware Profiles
Hardware profiles provide a way for you to set up and store different hardware configurations.
Hardware Profiles
OK
Cancel

Chapter 6 Appendix

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
BBS	BIOS Boot Specification
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

Acronyms	Meaning
I/O	Input / Output
IOAPIC	Input Output Advanced Programmable Input Controller
ISA	Industry Standard Architecture
LAN	Local Area Network
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
SMP	Symmetric Multi-Processing
SMI	System Management Interrupt
USB	Universal Serial Bus
VID	Voltage ID

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: