Vento 504Q / Vento 508Q

Vento 516Q / Vento 532Q

Quick Guide

Version 1.0
Published January 2010

Copyright Notice:

Disclaimer:

Specifications and information contained in this manual are provided for informational use only. It is subject to change without notice and should not be recognized as a commitment by huperLab. huperLab assume no responsibility for any errors or omissions that may appear in this manual. With respect to the contents of this manual, huperLab and ASRock do not provide any kind of warranty, either expressed or implied.
In no event should huperLab, its directors, officers, employees, or agents be liable for any indirect, special, incidental, or consequential damages (including damages for loss of profits, loss of business, loss of data, interruption of business and the like).

FC CE (EC conformity marking)

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 interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

CALIFORNIA, USA ONLY

The Lithium battery adopted on this motherboard contains Perchlorate, a toxic substance controlled in Perchlorate Best Management Practices (BMP) regulations passed by the California Legislature. When you discard the Lithium battery in California, USA, please follow the related regulations in advance.
"Perchlorate Material-special handling may apply, see www.dtsc.ca.gov/hazardouswaste/perchlorate"

For more product details, please visit huperLab's website at www.huperlab.com

Contents

Chapter 1 Introduction

Thank you for purchasing huperLab ***Vento 504Q / Vento 508Q / Vento 516Q / Vento 532Q*** motherboard, a reliable motherboard produced under huperLab's consistently stringent quality control. It delivers excellent performance with robust design conforming to huperLab's commitment to quality and endurance.
In this manual, chapter 1 and 2 contain introduction of the motherboard and step-by-step guide to the hardware installation. Chapter 3 and 4 contain the configuration guide to BIOS setup and information of the Support CD.

Because the motherboard specifications and the BIOS software might be updated, the content of this manual will be subject to change without notice. In case any modifications of this manual occur, the updated version will be available on huperLab website without further notice. You may find the latest VGA cards and CPU support lists on huperLab website as well. huperLab website If you require software support related to this motherboard, please visit huperLab website for specific information about the model you are using. huperLab website http://www.huperlab.com

1.1 Package Contents

huperLab ***Vento 504Q / 508Q / Vento 516Q / Vento 532Q*** Motherboard
(Micro-ATX Form Factor: 9.6-in x 9.6-in, 24.4 cm x 24.4 cm)
huperLab ***Vento 504Q / Vento 508Q / Vento 516Q / Vento 532Q*** Quick Installation Guide
huperLab ***Vento 504Q / Vento 508Q / Vento 516Q / Vento 532Q*** Support CD
huperVision 4000 Software CD

Motherboard Accessories

Vento 504Q: One 4CH Video in & Audio in Cable
Vento 508Q: One 8CH Video in & Audio in Cable
Vento 516Q: One 16CH Video in Cable
Vento 532Q: Two 16CH Video in Cable & One DB25 Bracket
Audio in cable with bracket (Optional)
TV-Out cable with bracket (Optional)
Audio in / TV-Out cable with bracket (Optional)
One I/O Panel shield
Two Serial ATA (SATA) Data Cable (Optional)

1.2 Specifications

Platform	- Micro-ATX Form Factor: 9.6-in x 9.6-in, 24.4 cm x 24.4 cm - Solid Capacitor for CPU power
CPU	- LGA 775 for Intel® Core™ 2 Extreme / Core™ 2 Quad / Core™ 2 Duo / Pentium® Dual Core / Celeron®, supporting and Penryn Quad Core Yorkfield and Dual Core Wolfdale processors - Supports FSB1333/1066/800 MHz - Supports Hyper-Threading Technology (see **CAUTION 1**) - Supports EM64T CPU
Chipset	- Northbridge: Intel® G41 - Southbridge: Intel® ICH7R
Memory	- Dual Channel DDR3 Memory Technology (see **CAUTION 2**) - 2 x DDR3 DIMM slots - Supports DDR3 800/1066 non-ECC, un-buffered memory (see **CAUTION 3)** - Max. capacity of system memory: 4GB (see **CAUTION 4**)
Expansion Slot	- 2 x PCIE x 1 slots (available for Vento 504/508/516 only) - 1 x PCI slot - 1 x HDMR slot
Graphics	- Intel® Graphics Media Accelerator X4500 - Pixel Shader 4.0, DirectX 10.0 - Max. shared memory 1759MB (see **CAUTION 5**) - Dual VGA Output: support DVI-D and D-Sub ports by independent display controllers - Supports DVI with max. resolution up to 1920x1200 @ 60Hz - Supports D-Sub with max. resolution up to 2048x1536 @ 60Hz
Audio	- 5.1 CH Windows® Vista™ Premium Level HD Audio (Realtek ALC662 Audio Codec)
LAN	- PCIE x 1 and PCI Gigabit LAN 10/100/1000 Mb/s - Realtek RTL8111DL/Realtek RTL8110SC - Supports Wake-On-LAN - Support Dual-LAN Features
Rear Panel I/O	I/O Panel - 1 x PS/2 Mouse Port - 1 x PS/2 Keyboard Port - 1 x DVR Audio / Video Input - 1 x Serial Port: COM1 - 1 x VGA Port - 1 x DVI-D Port - 4 x Ready-to-Use USB 2.0 Ports - 2 x RJ-45 LAN Port with LED (ACT/LINK LED and SPEED LED)

	- HD Audio Jack: Line in / Front Speaker / Microphone - 1 x **4/8/16/32 CH** Video In(AV IN Port)
Connector	- SATAII 3.0 Gb/s connectors(**SATA II_1-4** support RAID 0, RAID 1, RAID 0+1, RAID5, RAID10 and Intel Matrix Storage, **SATAII_5-8** support RAID 0, RAID 1, JBOD) NCQ, AHCI and "Hot Plug" functions (see **CAUTION 6**) - 1 x ATA100 IDE connector (supports 2 x IDE devices) - 1 x Floppy Connector - 1 x Com port Connector - CPU/Chassis FAN connector - 24 pin ATX power connector - 4 x USB 2.0 headers (support 4 USB 2.0 ports) (see **CAUTION 7)** - 1 x 9 pin VGA connector (REARPANEL1) - 504/508Q: 1 x 16 pin GPIO connector (support 8 GPIO) - 516Q: 2 x 16 pin GPIO connector (support 8 GPIO) - 504/508/516Q: 1 x 20 pin Audio input connector (support 16CH Audio in) 1 x 26 pin Video input connector - 532Q: 2x 16 pin GPIO (support 16 GPIO) 2 x 20 pin Audio input connector (support 16CH Audio in) 2 x 26 pin Video input connector
BIOS Feature	- 8MB AMI BIOS - AMI Legal BIOS - Supports "Plug and Play" - ACPI 1.1 Compliance Wake Up Events - AMBIOS 2.3.1 Support - CPU, VCCM, VTT Voltage Multi-adjustment
Support CD	- Drivers, Utilities, AntiVirus Software (Trial Version)
Unique Feature	- ASRock Instant Flash (see **CAUTION 8**) - Hybrid Booster: - ASRock U-COP (see **CAUTION 9**) - Boot Failure Guard (B.F.G.)
Hardware Monitor	- CPU Temperature Sensing - Chassis Temperature Sensing - CPU Fan Tachometer - Chassis Fan Tachometer - CPU Quiet Fan - Voltage Monitoring: +12V, +5V, +3.3V, Vcore
OS	- Microsoft® Windows® XP / Vista™ / Windows® 7
Certifications	- FCC, CE, WHQL

* For detailed product information, please visit website: http://www.huperLab.com

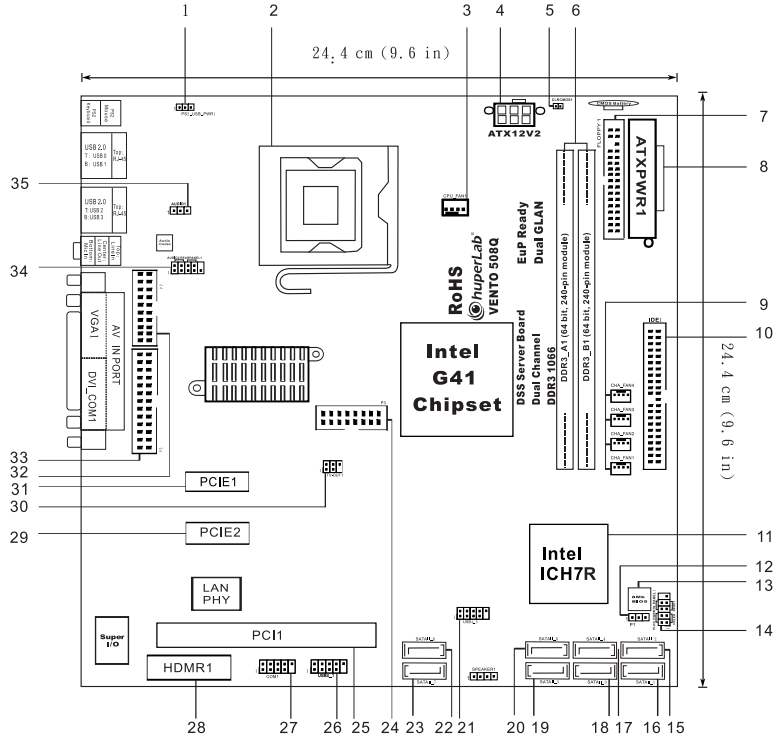
CAUTION!

1. About the setting of "Hyper Threading Technology", please check page 29.
2. This motherboard supports Dual Channel Memory Technology. Before you implement Dual Channel Memory Technology, make sure to read the installation guide of memory modules on page 17 for proper installation.
3. Please check the table below for the CPU FSB frequency and its corresponding memory support frequency.

CPU FSB Frequency	Memory Support Frequency
1333	DDR3 800, DDR3 1066
1066	DDR3 800, DDR3 1066
800	DDR3 800

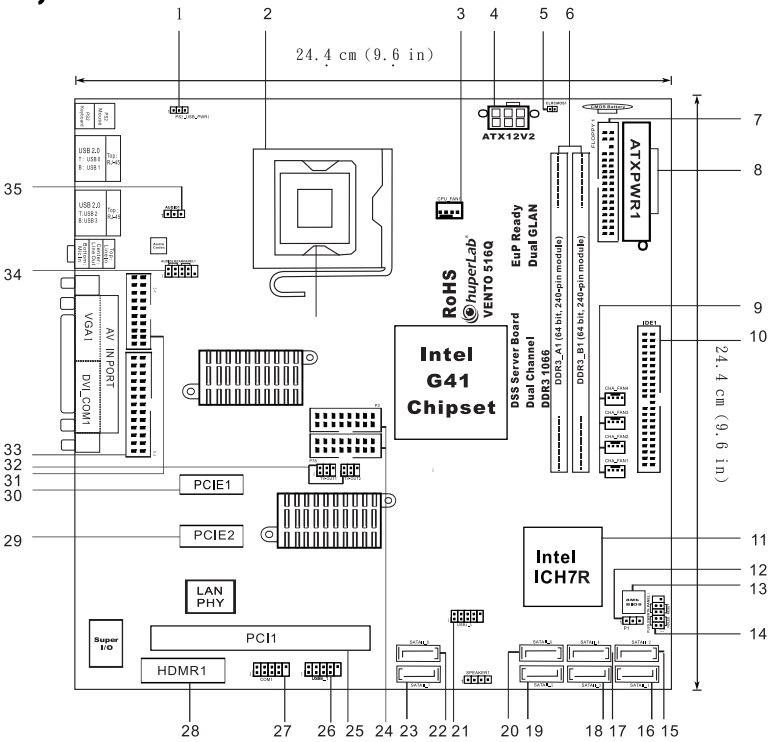
4. Due to the chipset limitation, the actual memory size may be less than 4GB for the reservation for system usage under Windows® XP, Windows® Vista™, Windows® 7.
5. The maximum shared memory size is defined by the chipset vendor and is subject to change. Please check Intel® website for the latest information.
6. Before installing SATAII hard disk to SATAII connector, please read the "SATAII Hard Disk Setup Guide" on page 23 to adjust your SATAII hard disk drive to SATAII mode. You can also connect SATA hard disk to SATAII connector directly.
7. Power Management for USB 2.0 works fine under Microsoft® Windows® 7 / Vista™ / XP SP1 or SP2.
8. ASRock Instant Flash is a BIOS flash utility embedded in Flash ROM. This convenient BIOS update tool allows you to update system BIOS without entering operating systems first like MS-DOS or Windows®. With this utility, you can press <F6> key during the POST or press <F2> key to BIOS setup menu to access ASRock Instant Flash. Just launch this tool and save the new BIOS file to your USB flash drive, floppy disk or hard drive, then you can update your BIOS only in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system.
9. While CPU overheat is detected, the system will automatically shutdown. Before you resume the system, please check if the CPU fan on the motherboard functions properly and unplug the power cord, then plug it back again. To improve heat dissipation, remember to spray thermal grease between the CPU and the heatsink when you install the PC system.

1.3 Motherboard Layout (Vento 504Q/508Q-60/508Q-120/ 508Q-240)



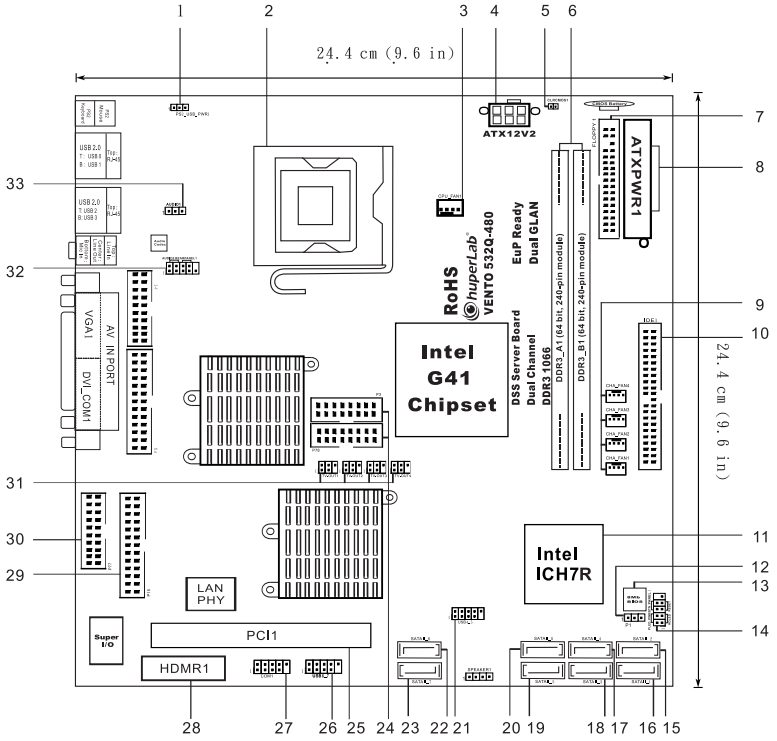
1	PS2_USB_PWR1 Jumper	18	SATAII Connector (SATAII_3; Red)
2	775-Pin CPU Socket19	19	SATAII Connector (SATAII_5; Orange)
3	CPU Fan Connector (CPU_FAN1)	20	SATAII Connector (SATAII_6; Orange)
4	ATX 12V Connector (ATX12V1)	21	USB 2.0 Header (USB4_5, Blue)
5	Clear CMOS Jumper (CLRCMOS1)	22	SATAII Connector (SATAII_8; Black)
6	2 x 240-pin DDR3 DIMM Slots (Dual Channel: DDR3_A1, DDR3_B1; Blue)	23	SATAII Connector (SATAII_7; Black)
		24	GPIO (P3)
7	Floppy Connector (FLOPPY1)	25	1 x PCI Slot (PCI1)
8	ATX Power Connector (ATXPWR1)	26	USB 2.0 Header (USB6_7; Blue)
9	Chassis Fan Connector (CHA_FAN1+4)	27	Serial Port Connection (COM1)
10	IDE1 Connector (IDE1, Blue)	28	Audio Modem Riser (HDMR1)
11	South Bridge Controller	29	1 x PCI Express Slot (PCIE2)
12	Watchdog Function Jumper	30	TV-OUT (TV-OUT1)
13	BIOS SPI Chip	31	1 x PCI Express Slot (PCIE1)
14	System Panel Header (PANEL1, Orange)	32	Audio In (P7)
15	SATAII Connector (SATAII_2; Red)	33	Video In (P5)
16	SATAII Connector (SATAII_1; Red)	34	External VGA Connector (REARPANEL1)
17	SATAII Connector (SATAII_4; Red)	35	Audio Header (AUDIO1)

1.4 Motherboard Layout (Vento 516Q-120/516Q-240/516Q-480)



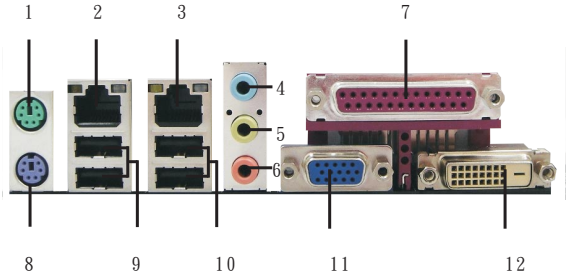
1	PS2_USB_PWR1 Jumper	18	SATAII Connector (SATAII_3; Red)
2	775-Pin CPU Socket19	19	SATAII Connector (SATAII_5; Orange)
3	CPU Fan Connector (CPU_FAN1)	20	SATAII Connector (SATAII_6; Orange)
4	ATX 12V Connector (ATX12V1)	21	USB 2.0 Header (USB4_5, Blue)
5	Clear CMOS Jumper (CLRCMOS1)	22	SATAII Connector (SATAII_8; Black)
6	2 x 240-pin DDR3 DIMM Slots (Dual Channel: DDR3_A1, DDR3_B1; Blue)	23	SATAII Connector (SATAII_7; Black)
		24	GPIO (P3)
7	Floppy Connector (FLOPPY1)	25	1 x PCI Slot (PCI1)
8	ATX Power Connector (ATXPWR1)	26	USB 2.0 Header (USB6_7; Blue)
9	Chassis Fan Connector (CHA_FAN1+4)	27	Serial Port Connection (COM1)
10	IDE1 Connector (IDE1, Blue)	28	Audio Modem Riser (HDMR1)
11	South Bridge Controller	29	1 x PCI Express Slot (PCIE2)
12	Watchdog Function Jumper	30	1 x PCI Express Slot (PCIE1)
13	BIOS SPI Chip	31	Audio In (P7)
14	System Panel Header (PANEL1, Orange)	32	TV-OUT (TV-OUT1, 2)
15	SATAII Connector (SATAII_2; Red)	33	Video In (P5)
16	SATAII Connector (SATAII_1; Red)	34	External VGA Connector (REARPANEL1)
17	SATAII Connector (SATAII_4; Red)	35	Audio Header (AUDIO1)

1.5 Motherboard Layout (Vento 532Q-240/532Q-480)



1	PS2_USB_PWR1 Jumper	18	SATAII Connector (SATAII_3; Red)
2	775-Pin CPU Socket19	19	SATAII Connector (SATAII_5; Orange)
3	CPU Fan Connector (CPU_FAN1)	20	SATAII Connector (SATAII_6; Orange)
4	ATX 12V Connector (ATX12V1)	21	USB 2.0 Header (USB4_5, Blue)
5	Clear CMOS Jumper (CLRCMOS1)	22	SATAII Connector (SATAII_8; Black)
6	2 x 240-pin DDR3 DIMM Slots (Dual Channel: DDR3_A1, DDR3_B1; Blue)	23	SATAII Connector (SATAII_7; Black)
		24	GPIO (P3)
7	Floppy Connector (FLOPPY1)	25	1 x PCI Slot (PCI1)
8	ATX Power Connector (ATXPWR1)	26	USB 2.0 Header (USB6_7; Blue)
9	Chassis Fan Connector (CHA_FAN1+4)	27	Serial Port Connection (COM1)
10	IDE1 Connector (IDE1, Blue)	28	Audio Modem Riser (HDMR1)
11	South Bridge Controller	29	Video In (P5)
12	Watchdog Function Jumper	30	Audio In (P7)
13	BIOS SPI Chip	31	TV-OUT (TV-OUT1,2,3,4)
14	System Panel Header (PANEL1, Orange)	32	External VGA Connector (REARPANEL1)
15	SATAII Connector (SATAII_2; Red)	33	Audio Header (AUDIO1)
16	SATAII Connector (SATAII_1; Red)		
17	SATAII Connector (SATAII_4; Red)		

1.6 I/O Panel



1	PS/2 Mouse Port (Green)	7	AV IN
2	LAN RJ-45 Port (LAN 1)	8	PS/2 Keyboard Port (Purple)
3	LAN RJ-45 Port (LAN 2)	9	USB 2.0 Ports (USB01)
4	Line In (Light Blue)	10	USB 2.0 Ports (USB23)
5	Line Out (Lime)	11	VGA/D-Sub Port
6	Microphone (Pink)	12	DVI-D Port

* There are two LED next to the LAN port. Please refer to the table below for the LAN port LED indications.

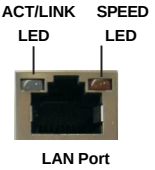
LAN Port LED Indications

Activity / Link LED

Status	Description
Off	No Link
Blinking	Data Activity

SPEED LED

Status	Description
Off	10Mbps connection
Orange	100Mbps connection
Green	1Gbps connection



* To enable Multi-Streaming function, you need to connect a front panel audio cable to the front panel audio header. Please refer to below steps for the software setting of Multi-Streaming.

For Windows® XP:

After restarting your computer, you will find “Mixer” tool on your system. Please select “Mixer ToolBox”  , click “Enable playback multi-streaming”, and click “ok”. Choose “2CH” or “4CH” and then you are allowed to select “Realtek HDA Primary output” to use Rear Speaker and Front Speaker, or select “Realtek HDA Audio 2nd output” to use front panel audio. Then reboot your system.

For Windows® 7 / Vista™:

After restarting your computer, please double-click “Realtek HD Audio Manager” on the system tray. Set “Speaker Configuration” to “Quadraphonic” or “Stereo”. Click “Device advanced settings”, choose “Make front and rear output devices playbacks two different audio streams simultaneously”, and click “ok”. Then reboot your system.

Chapter 2 Installation

Vento 504Q / Vento 508Q / Vento 516Q / Vento 532Q is a Micro-ATX form factor (9.6-in x 9.6-in, 24.4 cm x 24.4 cm) motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it.

Make sure to unplug the power cord before installing or removing the motherboard. Failure to do so may cause physical injuries to you and damages to motherboard components.

2.1 Screw Holes

Place screws into the holes indicated by circles to secure the motherboard to the chassis.

Do not over-tighten the screws! Doing so may damage the motherboard.

2.2 Pre-installation Precautions

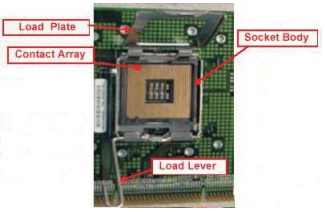
Take note of the following precautions before you install motherboard components or change any motherboard settings.

1. Unplug the power cord from the wall socket before touching any component.
2. To avoid damaging the motherboard components due to static electricity, NEVER place your motherboard directly on the carpet or the like. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle components.
3. Hold components by the edges and do not touch the ICs.
4. Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that comes with the component.

Before you install or remove any component, ensure that the power is switched off or the power cord is detached from the power supply.
Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

2.3 CPU Installation

For the installation of Intel 775-LAND CPU, please follow the steps below.

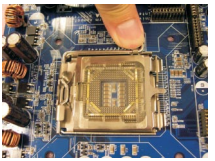


775-Pin Socket Overview

Before you insert the 775-LAND CPU into the socket, please check if the CPU surface is unclean or if there is any bent pin on the socket. Do not force to insert the CPU into the socket if above situation is found. Otherwise, the CPU will be seriously damaged.

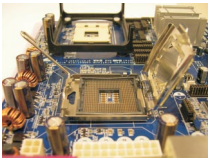
Step 1. Open the socket:

Step 1-1. Disengaging the lever by depressing down and out on the hook to clear retention tab.



Step 1-2. Rotate the load lever to fully open position at approximately 135 degrees.

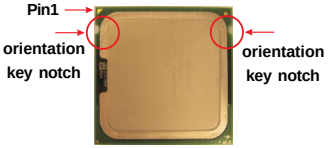
Step 1-3. Rotate the load plate to fully open position at approximately 100 degrees.



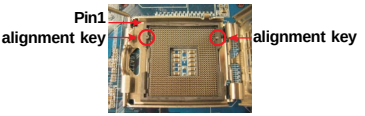
Step 2. Insert the 775-LAND CPU:

Step 2-1. Hold the CPU by the edges where are marked with black lines.

Step 2-2. Orient the CPU with IHS (Integrated Heat Sink) up. Locate Pin1 and the two orientation key notches.



775-LAND CPU

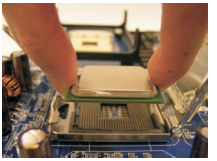


775-Pin Socket

For proper inserting, please ensure to match the two orientation key notches of the CPU with the two alignment keys of the socket.

Step 2-3. Carefully place the CPU into the socket by using a purely vertical motion.

Step 2-4. Verify that the CPU is within the socket and properly mated to the orient keys.



Step 3. Remove PnP Cap (Pick and Place Cap):

Use your left hand index finger and thumb to support the load plate edge, engage PnP cap with right hand thumb and peel the cap from the socket while pressing on center of PnP cap to assist in removal.

1. It is recommended to use the cap tab to handle and avoid kicking off the PnP cap.
2. This cap must be placed if returning the motherboard for after service.

Step 4. Close the socket:

Step 4-1. Rotate the load plate onto the IHS.

Step 4-2. While pressing down lightly on load plate, engage the load lever.

Step 4-3. Secure load lever with load plate tab under retention tab of load lever.

2.4 Installation of CPU Fan and Heatsink

This motherboard is equipped with 775-Pin socket that supports Intel 775-LAND CPU. Please adopt the type of heatsink and cooling fan compliant with Intel 775-LAND CPU to dissipate heat. Before you installed the heatsink, you need to spray thermal interface material between the CPU and the heatsink to improve heat dissipation. Ensure that the CPU and the heatsink are securely fastened and in good contact with each other. Then connect the CPU fan to the CPU_FAN connector (CPU_FAN1, see page 9/10/11, No. 3).

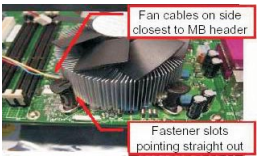
For proper installation, please kindly refer to the instruction manuals of your CPU fan and heatsink.

Below is an example to illustrate the installation of the heatsink for 775-LAND CPU.

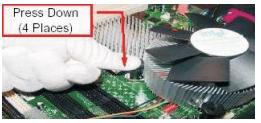
Step 1. Apply thermal interface material onto center of IHS on the socket surface.

Step 2. Place the heatsink onto the socket. Ensure fan cables are oriented on side closest to the CPU fan connector on the motherboard (CPU_FAN1, see page 9/10/11, No. 3).

Step 3. Align fasteners with the motherboard throughholes.



Step 4. Rotate the fastener clockwise, then press down on fastener caps with thumb to install and lock. Repeat with remaining fasteners.



If you press down the fasteners without rotating them clockwise, the heatsink cannot be secured on the motherboard.

Step 5. Connect fan header with the CPU fan connector on the motherboard.

Step 6. Secure excess cable with tie-wrap to ensure cable does not interfere with fan operation or contact other components.

2.5 Installation of Memory Modules (DIMM)

Vento 504Q / Vento 508Q / Vento 516Q / Vento 532Q motherboard provides two 240-pin DDR3 (Double Data Rate 3) DIMM slots, and supports Dual Channel Memory Technology. For dual channel configuration, you always need to install two **identical** (the same brand, speed, size and chip-type) memory modules in the DDR3 DIMM slots to activate Dual Channel Memory Technology. Otherwise, it will operate at single channel mode.

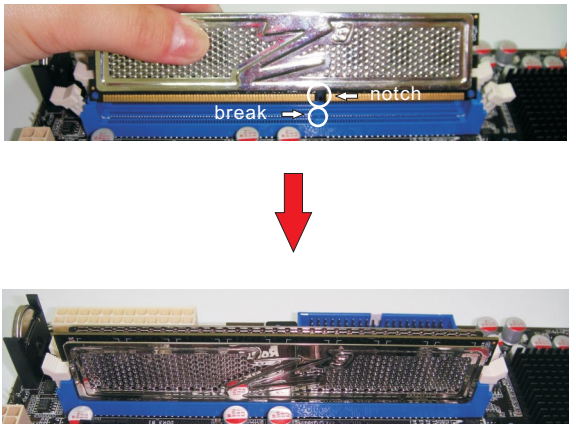
1. If you install only one memory module or two non-identical memory modules, it is unable to activate the Dual Channel Memory Technology.
2. It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation.

Installing a DIMM

Please make sure to disconnect power supply before adding or removing DIMMs or the system components.

Step 1. Unlock a DIMM slot by pressing the retaining clips outward.

Step 2. Align a DIMM on the slot such that the notch on the DIMM matches the break on the slot.



The DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation.

Step 3. Firmly insert the DIMM into the slot until the retaining clips at both ends fully snap back in place and the DIMM is properly seated.

2.6 Expansion Slot (PCI / PCI Express / HDMR Slot)

Vento 504Q- There are one PCI and two PCI Express slots on this motherboard.
Vento 508Q- There are one PCI and two PCI Express slots on this motherboard.
Vento 516Q- There are one PCI and two PCI Express slots on this motherboard.
Vento 532Q- There are one PCI slots on this motherboard.

PCI slots: PCI slot is used to install expansion cards that have the 32-bit PCI interface.

PCIE slot: PCIE slot is used for PCI Express cards with x 1 lane width cards, such as Gigabit LAN card, SATA2 card, etc.

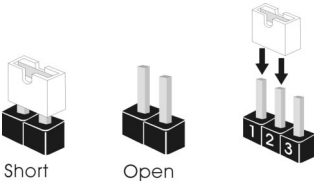
HDMR slot: HDMR slot is used to insert a MR card (optional) with v.92 Modem functionality.

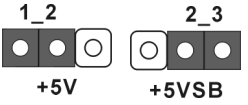
Installing an expansion card

Step 1. Before installing the expansion card, please make sure the power supply is switched off or the power cord is unplugged. Please read the documentation of the expansion card and make adjustments to hardware settings for the card before you start the installation.
Step 2. Remove the bracket facing the slot that you intend to use. Keep the screws for later use.
Step 3. Align the card connector with the slot and press firmly until the card is completely seated on the slot.
Step 4. Fasten the card to the chassis with screws.

2.7 Jumpers Setup

The illustrations show how jumpers are setup. When the jumper cap is placed on pins, the jumper is “Short”. When no jumper cap is placed on pins, the jumper is “Open”. The illustrations show a 3-pin jumper, whose pin1 and pin2 are “Short” when jumper cap is placed on top.

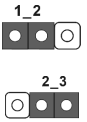


Jumper	Setting	Description
PS2_USB_PWR1 (see p. 9/10/11 No. 1)		Short pin 1_2 (Default) Short pin 2_3 to enable +5VSB (standby) for PS/2 or USB wake up events.

Note: To select +5VSB, it requires 2 Amp and higher standby current provided by power supply.

Clear CMOS (CLRCMOS1, 2-pin jumper) (see p.9/10/11 No. 5)	 2-pin jumper	

Note: CLRCMOS1 allows you to clear the data in CMOS. The data in CMOS includes system setup information such as system password, date, time, and system setup parameters. To clear and reset the system parameters to default setup, please turn off the computer and unplug the power cord from the power supply. After waiting for 15 seconds, use a jumper cap to short 2 pins on CLRCMOS1 for 5 seconds.

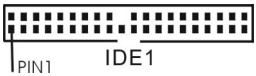
Watchdog Function Jumper (P1, 3-pin jumper) (see p. 9/10/11 No. 12)		Short pin1-2 to enable watchdog (Default), short pin 2-3 to disable watchdog.

2.8 Onboard Headers and Connectors

Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage of the motherboard!

Primary IDE connector (Blue)

(39-pin IDE1, see p.9/10/11 No. 10)



Serial ATAII Connectors

(SATAII_1: see p. 9/10/11 No. 16)

(SATAII_2: see p. 9/10/11 No. 15)

(SATAII_3: see p. 9/10/11 No. 18)

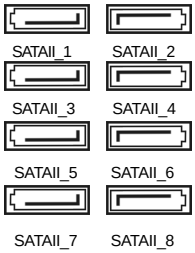
(SATAII_4: see p. 9/10/11 No. 17)

(SATAII_5: see p. 9/10/11 No. 19)

(SATAII_6: see p. 9/10/11 No. 20)

(SATAII_7: see p. 9/10/11 No. 23)

(SATAII_8: see p. 9/10/11 No. 22)



These Serial ATAII (SATAII) connectors support SATAII hard disk for internal storage devices. The current SATAII interface allows up to 3.0 Gb/s data transfer rate.

Serial ATA (SATA) Data Cable

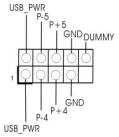
(Red; Optional)

Either end of the SATA data cable can be connected to the SATAII hard disk or the SATAII connector on the motherboard.

USB 2.0 Headers

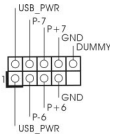
(9-pin USB4_5)

(see p. 9/10/11 No. 21)



(9-pin USB6_7)

(see p. 9/10/11 No.26)



Besides two default USB 2.0 ports on the I/O panel, there are two USB 2.0 headers on this motherboard. Each USB 2.0 header can support two USB 2.0 ports.

FDD connector

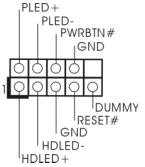
(33-pin FLOPPY1)

(see p. 9/10/11 No. 7)

System Panel Header

(9-pin PANEL1)

(see p. 9/10/11 No. 14)

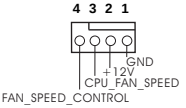


This header accommodates several system front panel functions.

Chassis Fan Connector

(4-pin CHA_FAN1; CPA_FAN2; CPA_FAN3; CPA_FAN4)

(see p. 9/10/11 No. 9)

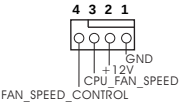


Please connect a chassis fan to this connector and match cable to this connector and match the black wire to the ground pin.

CPU Fan Connector

(4-pin CPU_FAN1)

(see p. 9/10/11 No. 3)



Please connect a CPU fan cable the black wire to the ground pin.

Though this motherboard provides 4-Pin CPU fan (Quiet Fan) support, the 3-Pin CPU fan still can work successfully even without the fan speed control function. If you plan to connect the 3-Pin CPU fan to the CPU fan connector on this motherboard, please connect it to Pin 1-3.

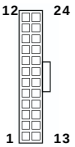
Pin 1-3 Connected

3-Pin Fan Installation

ATX Power Connector

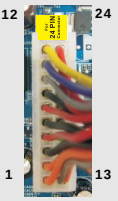
(24-pin ATXPWR1)

(see p. 9/10/11, No. 8)



Please connect an ATX power supply to this connector.

Though this motherboard provides 24-pin ATX power connector, it can still work if you adopt a traditional 20-pin ATX power supply. To use the 20-pin ATX power supply, please plug your power supply along with Pin 1 and Pin 13.

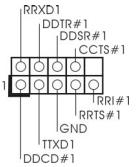


20-Pin ATX Power Supply Installation

Serial port Header

(9-pin COM1)

(see p. 9/10/11, No.27)

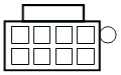


This COM1 header supports a serial port module.

ATX 12V Power Connector

(8-pin ATX12V1)

(see p. 9/10/11 No.4)

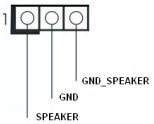


Please connect an ATX 12V power supply to this connector.

Audio Header

(3-pin AUDIO1)

(see p. 9/10/11 No.33)

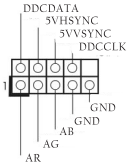


This AUDIO1 header supports a system speaker.

Rearpanel Header

(9-pin REARPANEL1)

(see p. 9/10/11 No.33)

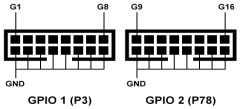


This external VGA connector allows you to connect an additional monitor.

GPIO

(16-pin P3,P78)

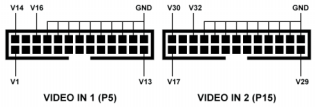
(see p. 9/10/11 Number vary with different MB)



Video in

(26-pin P5,P15)

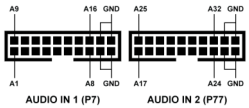
(see p. 9/10/11 Number vary with different MB)



Audio in

(20-pin P7,P77)

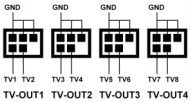
(see p. 9/10/11 Number vary with different MB)



TV-Out

(5-pin TV-OUT1,TV-OUT2, TV-OUT3, TV-OUT4)

(see p. 9/10/11 Number vary with different MB)



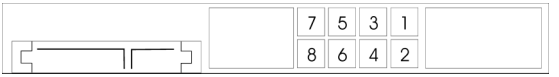
2.9 SATAII Hard Disk Setup Guide

Before installing SATAII hard disk to your computer, please carefully read below SATAII hard disk setup guide. Some default setting of SATAII hard disks may not be at SATAII mode, which operate with the best performance. In order to enable SATAII function, please follow the below instruction with different vendors to correctly adjust your SATAII hard disk to SATAII mode in advance; otherwise, your SATAII hard disk may fail to run at SATAII mode.

Western Digital

If pin 5 and pin 6 are shorted, SATA 1.5Gb/s will be enabled.
On the other hand, if you want to enable SATAII 3.0Gb/s, please remove the jumpers from pin 5 and pin 6.

SAMSUNG



If pin 3 and pin 4 are shorted, SATA 1.5Gb/s will be enabled.
On the other hand, if you want to enable SATAII 3.0Gb/s, please remove the jumpers from pin 3 and pin 4.

HITACHI

Please use the Feature Tool, a DOS-bootable tool, for changing various ATA features. Please visit HITACHI's website for details:
http://www.hitachigst.com/hdd/support/download.htm

The above examples are just for your reference. For different SATAII hard disk products of different vendors, the jumper pin setting methods may not be the same. Please visit the vendors' website for the updates.

2.10 Serial ATAII (SATAII) Hard Disks Installation

This motherboard adopts Intel® ICH7 south bridge chipset that supports Serial ATAII (SATAII) hard disks. You may install SATAII hard disks on this motherboard for internal storage devices. This section will guide you to install the SATAII hard disks.

STEP 1: Install the SATAII hard disks into the drive bays of your chassis.
STEP 2: Connect the SATA power cable to the SATAII hard disk.
STEP 3: Connect one end of the SATA data cable to the motherboard's SATAII connector.
STEP 4: Connect the other end of the SATA data cable to the SATAII hard disk.

It is not recommended to switch the "Configure SATAII as" setting between AHCI, RAID and IDE mode after OS installation.

2.11 Hot Plug Functions for SATAII HDDs

This motherboard supports Hot Plug functions for SATAII in RAID / AHCI mode. Intel® ICH7R chipset provides hardware support for Advanced Host controller Interface (AHCI), a new programming interface for SATA host controllers developed thru a joint industry effort.

NOTE:

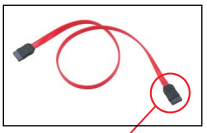
What is Hot Plug Function?

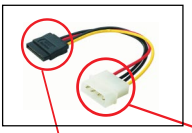
If the SATAII HDDs are NOT set for RAID configuration, it is called "Hot Plug" for the action to insert and remove the SATAII HDDs while the system is still power-on and in working condition.
However, please note that it cannot perform Hot Plug if the OS has been installed into the SATAII HDD.

2.12 SATAII HDD Hot Plug Feature and Operation Guide

This motherboard supports Hot Plug feature for SATAII HDD in RAID / AHCI mode. Please read below operation guide of Hot Plug feature carefully. Before you process the SATAII HDD Hot Plug, please check below cable accessories from the motherboard gift box pack.

A. 7-pin SATA data cable
B. SATA power cable with SATA 15-pin power connector interface





SATA 7-pin connector

The SATA 15-pin power connector (Black) connect to SATAII HDD

1x4-pin conventional power connector (White) connect to power supply

Caution

1. Without SATA 15-pin power connector interface, the SATAII Hot Plug cannot be processed.
2. Even some SATAII HDDs provide both SATA 15-pin power connector and IDE 1x4-pin conventional power connector interfaces, the IDE 1x4-pin conventional power connector interface is definitely not able to support Hot Plug and will cause the HDD damage and data loss.

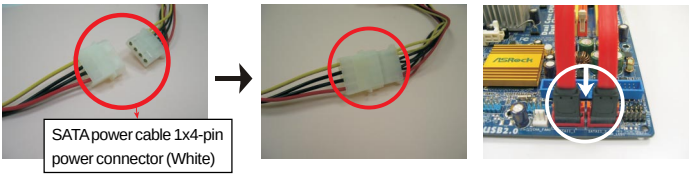
Points of attention, before you process the Hot Plug:

1. Below operation procedure is designed only for our motherboard, which supports SATAII HDD Hot Plug.
   * The SATAII Hot Plug feature might not be supported by the chipset because of its limitation, the SATAII Hot Plug support information of our motherboard is indicated in the product spec on our website: www.huperlab.com
2. Make sure your SATAII HDD can support Hot Plug function from your dealer or HDD user manual. The SATAII HDD, which cannot support Hot Plug function, will be damaged under the Hot Plug operation.
3. Please make sure the SATAII driver is installed into system properly. The latest SATAII driver is available on our support website: www.huperlab.com
4. Make sure to use the SATA power cable & data cable, which are from our motherboard package.
5. Please follow below instructions step by step to reduce the risk of HDD crash or data loss.

How to Hot Plug a SATAII HDD:

Step *1* Please connect SATA power cable 1x4-pin end (White) to the power supply 1x4-pin cable.

Step *2* Connect SATA data cable to the motherboard's SATAII connector.



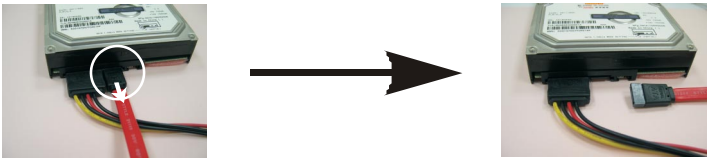
Step *3* Connect SATA 15-pin power cable connector (Black) end to SATAII HDD.

Step *4* Connect SATA data cable to the SATAII HDD.

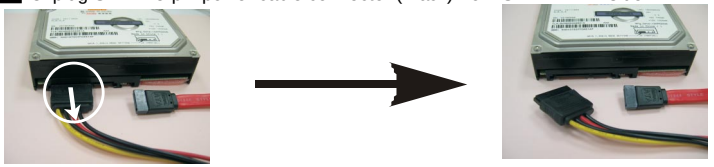
How to Hot Unplug a SATAII HDD:

Points of attention, before you process the Hot Unplug:
Please do follow below instruction sequence to process the Hot Unplug, improper procedure will cause the SATAII HDD damage and data loss.

Step *1* Unplug SATA data cable from SATAII HDD side.



Step *2* Unplug SATA 15-pin power cable connector (Black) from SATAII HDD side.



2.13 Driver Installation Guide

To install the drivers to your system, please insert the support CD to your optical drive first. Then, the drivers compatible to your system can be auto-detected and listed on the support CD driver page. Please follow the order from up to bottom side to install those required drivers. Therefore, the drivers you install can work properly.

2.14 Installing Windows® 7 / Vista™ / XP With RAID Functions

If you want to install Windows® 7 / Vista™ / XP OS on your SATAII HDDs with RAID functions, please follow below procedures according to the OS you install.

This installation procedures for Windows® 7 / Vista™ / XP are subject to change.

2.14.1 Installing Operating System With RAID Functions

STEP 1: Set up BIOS.

A. Enter BIOS SETUP UTILITY--> Advanced screen -->Storage Configuration.

B. If you plan to install OS on Intel® SATAII ports with RAID functions, please select [RAID] as the Intel SATAII_1, SATAII_2, SATAII_3, SATAII_4 operation mode. If you plan to install OS on JMicron® SATAII posts with RAID functions, please select the [RAID] as the JMicron SATAII_5, SATAII_6 or SATAII_7, SATAII_8 operation mode.

STEP 2: Make a SATAII Driver Diskette.

A. Insert the Support CD into your optical drive to boot your system.

B. During POST at the beginning of system boot-up, press <F11> key, and then a window for boot devices selection appears. Please select CD-ROM as the boot device.

C. When you see the message on the screen, “Do you want to generate Serial ATAII driver diskette [YN]?”, press <Y>.

D. Then you will see these messages,

Please insert a diskette into the floppy drive.
WARNING! Formatting the floppy diskette will lose ALL data in it!
Start to format and copy files [YN]?
Please insert a floppy diskette into the floppy drive, and press <Y>.

E. The system will start to format the floppy diskette and copy SATAII drivers into the floppy diskette.

STEP 3: Use “RAID Installation Guide” to set RAID configuration.

Before you start to configure the RAID function, you need to check the installation guide in the Support CD for proper configuration. Please refer to the document in

the Support CD, “Guide to SATAII Hard Disks Installation and RAID Configuration”, which is located in the folder at the following path:
.. \ RAID Installation Guide

STEP 4: Install OS on your system.
After making a SATAII driver diskette and using “RAID Installation Guide” to set RAID configuration, you can start to install OS on your system. At the beginning of OS setup, press **F6** to install a third-party RAID driver. When prompted, insert the SATAII driver diskette containing the Intel® RAID driver. After reading the floppy disk, the driver will be presented. Select the driver to install according to the mode you choose and the OS you install. The driver options are as below:

1. Generate the RAID / AHCI driver diskette for Intel ICH7R (Windows XP)
2. Generate the RAID / AHCI driver diskette for JMicron JMB362 (Windows XP)
3. Exit

If you insert HDDs to Intel® SATAII connectors (Red), please choose item 1. If you insert HDDs to JMicron® SATAII connectors (Black & Orange), please choose item 2. You can also specify twice to load both two drivers if you plan to create RAID on two SATAII HDDs, but please note that the two SATAII HDDs provide separated RAID functions.

NOTE: After the installation of Windows® OS and RAID utility, if you want to manage RAID functions, please refer to the WINDOW RAID installation guide of the document in the following path in the Support CD: **.. \ RAID Installation Guide**

If you want to use “Intel RAID Tool” in Windows® environment, please install “SATAII driver” from the Support CD again so that “Intel RAID Tool” will be installed to your system as well.

2.14.2 Setting Up a “RAID Ready” System

You can also set up a “RAID Ready” system with a single SATAII hard disk. A “RAID Ready” system can be seamlessly upgraded to RAID 0, RAID 1 or RAID 5 at a later date by using RAID migration feature of Intel Rapid Storage. The following steps outline how to build an Intel “RAID Ready” system.

1. Assemble the system and attach a single SATAII hard drive.
2. Set up system BIOS as step 2 of page 27 When done, exit Setup.
3. Make a SATAII driver diskette as step 2 of page 27. Begin Windows® setup by booting from the installation CD.
4. At the beginning of Windows® setup, press F6 to install a third-party RAID driver. When prompted, insert the SATAII driver diskette containing the Intel® RAID driver. After reading the floppy disk, the driver will be presented. Select the driver to install according to the mode you choose and the OS you install.

5. Finish the Windows® installation and install all necessary drivers.
6. Install the Intel(R) Rapid Storage software via the CD-ROM included with your motherboard or after downloading it from the Internet. This will add the Intel(R) Rapid Storage Console which can be used to manage the RAID configuration.
7. After setting up a “RAID Ready” system as the above steps, you can follow the procedures of the next section to migrate the system to RAID 0, RAID 1 or RAID 5.

2.14.3 Migrating a “RAID Ready” System to RAID 0, RAID 1 or RAID 5

If you have an existing “RAID Ready” system, then you can use the following steps to perform a migration from a single non-RAID configuration to a two drive RAID 0, RAID 1 configuration or three drive RAID 5 configuration. To prepare for this, you will need another SATAII hard drive with a capacity equal to or greater than that currently being used as the source hard drive.

1. Physically attach one additional SATAII hard drive to the SATAII port not being used. Note the serial number of the hard drive already in the system; you will use this to select it as the source hard drive when initiating the migration.
2. Boot Windows®, install the Intel(R) Rapid Storage software, if not already installed, using the setup package obtained from a CD-ROM or from the Internet. This will install the necessary Intel Storage Utility and start menu links.
3. Open the Intel Storage Utility from the Start Menu and select “Create RAID volume from Existing Hard Drive” from the Actions menu. This will activate the Create RAID volume from Existing Hard Drive Wizard. Click through the dialogs as prompted. It’s important to understand what will occur during the migration process because any data on the destination hard drive will be lost.
4. Once the migration is complete, reboot the system. If you migrated to a RAID 0 volume, use Disk Management from within Windows® in order to partition and format the empty space created when the two hard drive capacities are combined. You may also use third-party software to extend any existing partitions within the RAID volume.

2.15 Installing Windows® 7 / Vista™ / XP Without RAID Functions

If you want to install Windows® 7 / Vista™ / XP OS on your SATA / SATAII HDDs without RAID functions, please follow below procedures according to the OS you install.

2.15.1 Installing Operating System Without RAID Functions

If you want to install OS on your SATAII HDDs without RAID functions, please follow below steps.

Using SATAII HDDs with NCQ function

STEP 1: Set Up BIOS.

A. Enter BIOS SETUP UTILITY→ Advanced screen → Storage Configuration.

B. If you plan to install OS on Intel® SATAII ports with RAID functions, please select [AHCI] or [IDE] as the Intel SATAII_1, SATAII_2, or SATAII_3, SATAII_4 operation mode. If you plan to install OS on JMicron® SATAII posts with RAID functions, please select the [AHCI]] or [IDE] as the JMicron SATAII_5, SATAII_6 or SATAII_7, SATAII_8 operation mode.

STEP 2: Make a SATAII driver diskette.

Please make a SATAII driver diskette by following section 2.14.1 step 2 on page 27.

STEP 3: Install Windows® XP OS on your system.

After making a SATAII driver diskette, you can start to install OS on your system. At the beginning of Windows® setup, press **F6** to install a third-party AHCI driver. When prompted, insert the SATAII driver diskette containing the Intel® AHCI driver. After reading the floppy disk, the driver will be presented. The friver options are as below:

1. Generate the RAID / AHCI driver diskette for Intel ICH7R (Windows XP)
2. Generate the RAID / AHCI driver diskette for JMicron JMB362 (Windows XP)
3. Exit

If you insert HDDs to Intel® SATAII connectors (Red), please choose item 1. If you insert HDDs to JMicron® SATAII connectors (Black & Orange), please choose item 2. You can also specify twice to load both two drivers if you plan to create RAID on two SATAII HDDs, but please note that the two SATAII HDDs provide separated RAID functions.

Using SATAII HDDs without NCQ function

STEP 1: Set up BIOS.

A. Enter BIOS SETUP UTILITY → Advanced screen→ Storage Configuration.

B. If you plan to install OS on Intel® SATAII ports with RAID functions, please select [AHCI] or [IDE] as the Intel SATAII_1, SATAII_2, or SATAII_3, SATAII_4 operation mode. If you plan to install OS on JMicron® SATAII posts with RAID functions, please select the [AHCI]] as the JMicron SATAII_5, SATAII_6 or SATAII_7, SATAII_8 operation mode.

STEP 2: Install OS on your system.

Chapter 3 BIOS SETUP UTILITY

3.1 Introduction

This section explains how to use the BIOS SETUP UTILITY to configure your system. The BIOS FWH chip on the motherboard stores the BIOS SETUP UTILITY. You may run the BIOS SETUP UTILITY when you start up the computer. Please press <F2> during the Power-On-Self-Test (POST) to enter the BIOS SETUP UTILITY, otherwise, POST will continue with its test routines.

If you wish to enter the BIOS SETUP UTILITY after POST, restart the system by pressing <Ctl> + <Alt> + <Delete>, or by pressing the reset button on the system chassis. You may also restart by turning the system off and then back on.

Because the BIOS software is constantly being updated, the following BIOS setup screens and descriptions are for reference purpose only, and they may not exactly match what you see on your screen.

3.1.1 BIOS Menu Bar

The top of the screen has a menu bar with the following selections:

Main	To set up the system time/date information
Advanced	To set up the advanced BIOS features
H/W Monitor	To display current hardware status
Boot	To set up the default system device to locate and load the Operating System
Security	To set up the security features
Chipset	To set up the chipset features
Exit	To exit the current screen or the BIOS SETUP UTILITY

Use <←> key or <→> key to choose among the selections on the menu bar, and then press <Enter> to get into the sub screen.

3.1.2 Navigation Keys

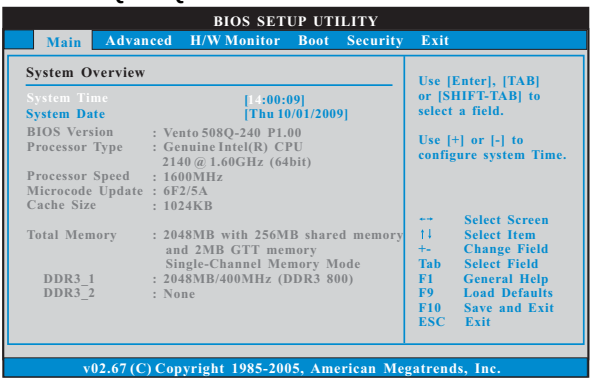
Please check the following table for the function description of each navigation key.

Navigation Key(s)	Function Description
← / →	Moves cursor left or right to select Screens
↑ / ↓	Moves cursor up or down to select items
+ / -	To change option for the selected items
<Enter>	To bring up the selected screen
<F1>	To display the General Help Screen
<F9>	To load optimal default values for all the settings
<F10>	To save changes and exit the BIOS SETUP UTILITY
<ESC>	To jump to the Exit Screen or exit the current screen

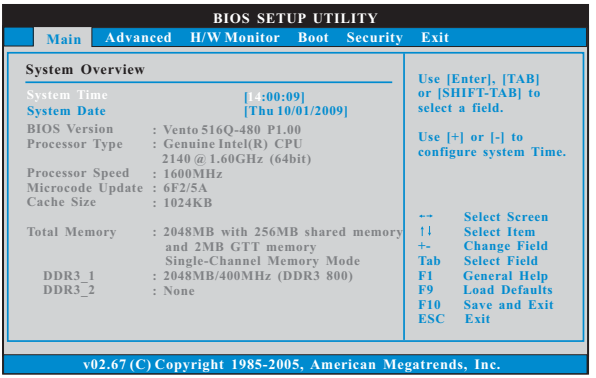
3.2 Main Screen

When you enter the BIOS SETUP UTILITY, the Main screen will appear and display the system overview.

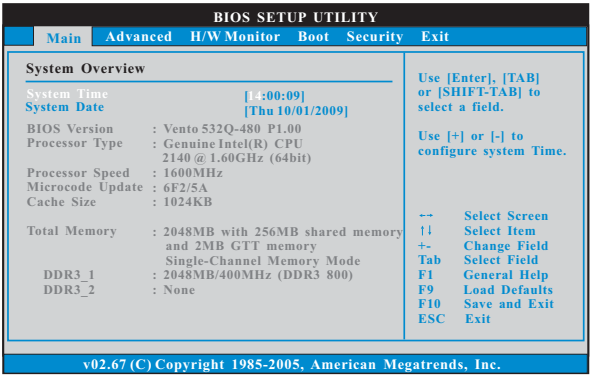
Vento 504Q/508Q



Vento 516Q



Vento 532Q



System Time [Hour:Minute:Second]

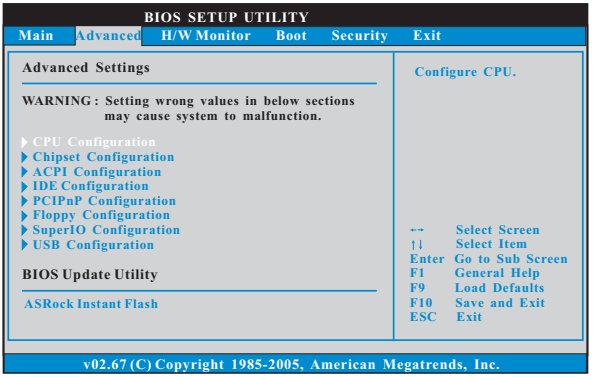
Use this item to specify the system time.

System Date [Day Month/Date/Year]

Use this item to specify the system date.

3.3 Advanced Screen

In this section, you may set the configurations for the following items: CPU Configuration, Chipset Configuration, ACPI Configuration, IDE Configuration, PCIPnP Configuration, Floppy Configuration, SuperIO Configuration, and USB Configuration.

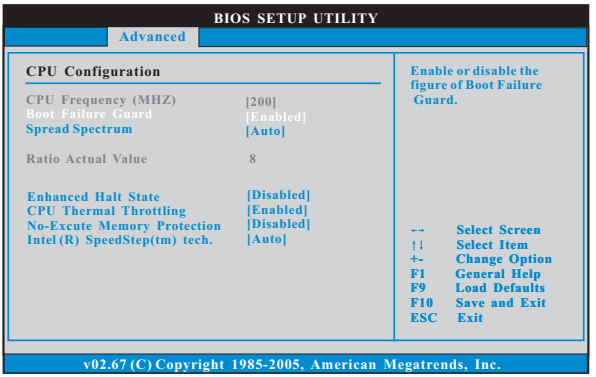


ASRock Instant Flash

ASRock Instant Flash is a BIOS flash utility embedded in Flash ROM. This Convenient BIOS update tool allows you to update system BIOS without entering operating systems first like MS-DOS or Windows®. Just launch this tool and save the new BIOS file to your USB flash drive, floppy disk or hard drive, then you can update your BIOS only in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system. If you execute ASRock Instant Flash utility, the utility will show the BIOS files and their respective information. Select the proper BIOS file to update your BIOS, and reboot your system after BIOS update process completes.

Setting wrong values in this section may cause the system to malfunction.

3.3.1 CPU Configuration



CPU Frequency (MHz)

Use this option to adjust CPU frequency.

Boot Failure Guard

Enable or disable the feature of Boot Failure Guard.

Spread Spectrum

This item should always be [Auto] for better system stability.

Ratio Actual Value

This is a read-only item, which displays the ratio actual value of this motherboard.

Enhance Halt State

All processors support the Halt State (C1). The C1 state is supported through the native processor instructions HLT and MWAIT and requires no hardware support from the chipset. In the C1 power state, the processor maintains the context of the system caches.

CPU Thermal Throttling

You may select [Enabled] to enable P4 CPU internal thermal control mechanism to keep the CPU from overheated.

No-Excute Memory Protection

No-Execution (NX) Memory Protection Technology is an enhancement to the IA-32 Intel Architecture. An IA-32 processor with “No Execute (NX) Memory Protection” can prevent data pages from being used by malicious software to execute code.

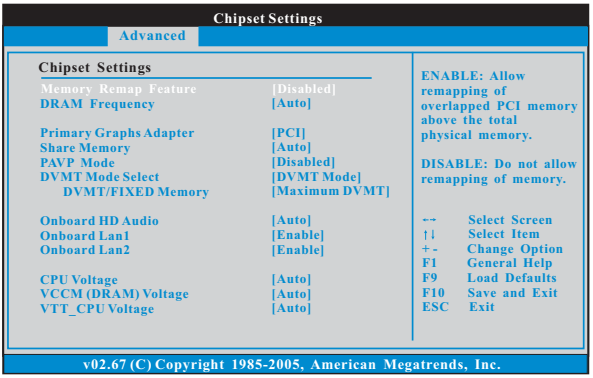
Hyper Threading Technology

To enable this feature, it requires a computer system with an Intel Pentium® 4 processor that supports Hyper-Threading technology and an operating system that includes optimization for this technology, such as Microsoft® Windows® XP. Set to [Enabled] if using Microsoft® Windows® XP, or Linux kernel version 2.4.18 or higher.

Intel (R) SpeedStep(tm) tech.

Intel (R) SpeedStep(tm) tech. is Intel's new power saving technology. Processor can switch between multiple frequency and voltage points to enable powersavings. The default value is [Auto]. Configuration options: [Auto], [Enabled] and [Disabled]. If you install Windows® XP and select - [Auto], you need to set the "Power Schemes" as "Portable/Laptop" to enable this function. If you install Windows® Vista™ and want to enable this function, please set this item to [Enabled]. This item will be hidden if the current CPU does not support Intel (R) SpeedStep(tm) tech..

3.3.2 Chipset Configuration



Memory Remap Feature

Use this item to enable or disable memory remap feature. Configuration options: [Enabled] and [Disabled]. The default value is [Disabled].

DRAM Frequency

If [Auto] is selected, the motherboard will detect the memory module(s) inserted and assigns appropriate frequency automatically. You may select [400MHz (DDR3 800)] or [533MHz (DDR3 1066)]. The configuration options depend on the CPU and memory module you adopt on this motherboard. Please refer to page 8 for the CPU FSB frequency and its corresponding memory support frequency.

Primary Graphics Adapter

This allows you to select [Onboard], [PCI] as the boot graphic adapter priority. The default value is [PCI].

Share Memory

This allows you to set share memory feature. The default value is [Auto]. Configuration options: [Auto], [32MB], [64MB], [128MB] and [256MB].

PAVP Mode

Use this option to adjust PAVP mode. Configuration options: [Disabled] and [Lite]. The default value is [Disabled]. PAVP is the new graphics feature in Intel® 4 Series Express chipset family to support increased content protection and robustness requirements for premium content playback (Blu-ray disc). [Lite] mode is the encryption of compressed video buffer and is hardware-based 128-bit AES decryption.

DVMT Mode Select

Use this option to adjust DVMT mode. The default value is [DVMT Mode]. DVMT (Dynamic Video Memory Technology) is an architecture that offers breakthrough performance for the motherboard through efficient memory utilization. In DVMT mode, the graphics driver allocates memory as needed for running graphics applications and is cooperatively using this memory with other system components. This item will not be used under Windows® Vista™ OS because the driver will intelligently detect physical memory available and allocate necessary video memory.

DVMT/FIXED Memory

You are allowed to adjust the shared memory size in this item if you set DVMT Mode Select as [DVMT Mode]. Configuration options: [128MB], [256MB] and [Maximum DVMT]. The option [Maximum DVMT] only appears when you adopt the memory module with 1024MB or above.

OnBoard HD Audio

Select [Auto], [Enabled] or [Disabled] for the onboard HD Audio feature. If you select [Auto], the onboard HD Audio will be disabled when PCI Sound Card is plugged.

OnBoard Lan1

This allows you to enable or disable the “OnBoard Lan1” feature.

OnBoard Lan2

This allows you to enable or disable the “OnBoard Lan2” feature.

CPU Voltage

Use this to select CPU Voltage. Configuration options: [Auto] and [Manual]. The default value of this feature is [Auto].

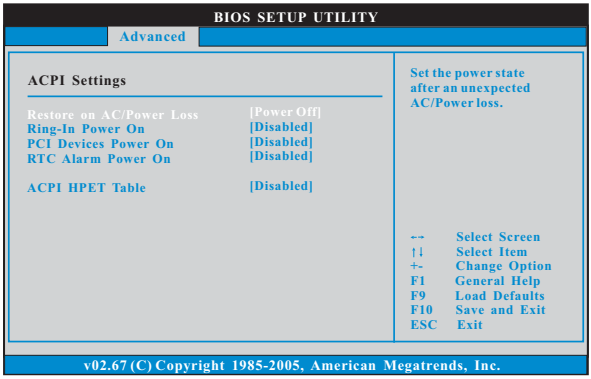
VCCM(DRAM) Voltage

Use this to select VCCM(DRAM) Voltage. Configuration options: [Auto], [1.527V], [1.588V], [1.657V] and [1.718V]. The default value of this feature is [Auto].

VTT_CPU Voltage

Use this to select VTT Voltage. Configuration options: [Auto], [1.10V], [1.16V], [1.22V] and [1.28V]. The default value of this feature is [Auto].

3.3.3 ACPI Configuration



Restore on AC/Power Loss

This allows you to set the power state after an unexpected AC/Power loss. If [Power Off] is selected, the AC/Power remains off when the power recovers. If [Power On] is selected, the AC/Power resumes and the system starts to boot up when the power recovers.

Ring-In Power On

Use this item to enable or disable Ring-In signals to turn on the system from the power-soft-off mode.

PCI Devices Power On

Use this item to enable or disable PCI devices to turn on the system from the power-soft-off mode.

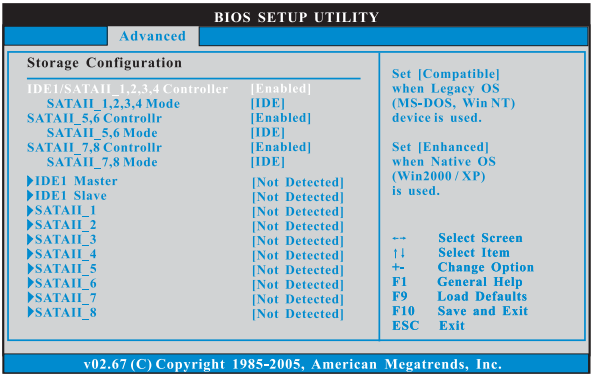
RTC Alarm Power On

Use this item to enable or disable RTC (Real Time Clock) to power on the system.

ACPI HPET Table

Use this item to enable or disable ACPI HPET Table. The default value is [Disabled]. Please set this option to [Enabled] if you plan to use this motherboard to submit Windows® Vista™ certification.

3.3.4 Storage Configuration



IDE1/SATAII_1,2,3,4 Controller

Enable or disable the onboard IDE1 and Intel SATAII_1,2,3,4 Controller.

SATAII_1,2,3,4 Mode

This allows you to select [**IDE**], [**RAID**], [**AHCI**] as the Intel SATAII_1,2,3,4 operation mode. The default value is [**IDE**].

SATAII_5,6 Controller

Enable or disable the onboard JMicron SATAII_5,6 Controller.

SATAII_5,6 Mode

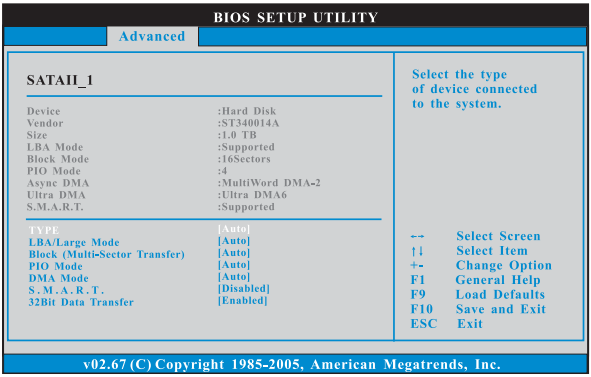
This allows you to select [**IDE**], [**RAID**], [**AHCI**] as the JMicron SATAII_5,6 operation mode. The default value is [**IDE**].

SATAII_7,8 Controller

Enable or disable the onboard JMicron SATAII_**7,8** Controller.

SATAII_7,8 Mode

This allows you to select [**IDE**], [**RAID**], [**AHCI**] as the JMicron SATAII_**7,8** operation mode. The default value is [**IDE**].



TYPE

Use this item to configure the type of the IDE device that you specify. Configuration options: [Not Installed], [Auto], [CD/DVD], and [ARMD].

[Not Installed]: Select [Not Installed] to disable the use of IDE device.

[Auto]: Select [Auto] to automatically detect the hard disk drive.

After selecting the hard disk information into BIOS, use a disk utility, such as FDISK, to partition and format the new IDE hard disk drives. This is necessary so that you can write or read data from the hard disk. Make sure to set the partition of the Primary IDE hard disk drives to active.

[CD/DVD]: This is used for IDE CD/DVD drives.

[ARMD]: This is used for IDE ARMD (ATAPI Removable Media Device), such as MO.

LBA/Large Mode

Use this item to select the LBA/Large mode for a hard disk > 512 MB under DOS and Windows; for Netware and UNIX user, select [Disabled] to disable the LBA/Large mode.

Block (Multi-Sector Transfer)

The default value of this item is [Auto]. If this feature is enabled, it will enhance hard disk performance by reading or writing more data during each transfer.

PIO Mode

Use this item to set the PIO mode to enhance hard disk performance by optimizing the hard disk timing.

DMA Mode

DMA capability allows the improved transfer-speed and data-integrity for compatible IDE devices.

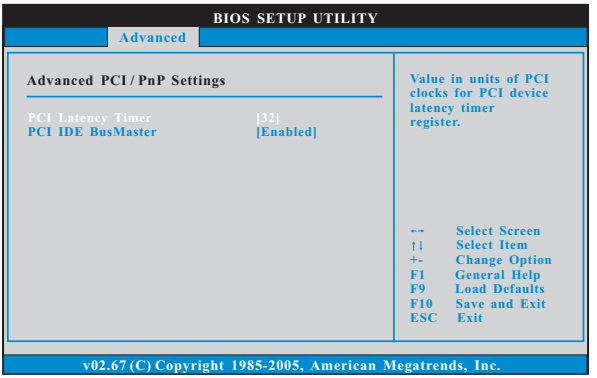
S.M.A.R.T.

Use this item to enable or disable the S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) feature. Configuration options: [Disabled], [Auto], [Enabled].

32-Bit Data Transfer

Use this item to enable 32-bit access to maximize the IDE hard disk data transfer rate.

3.3.5 PCIPnP Configuration



PCI Latency Timer

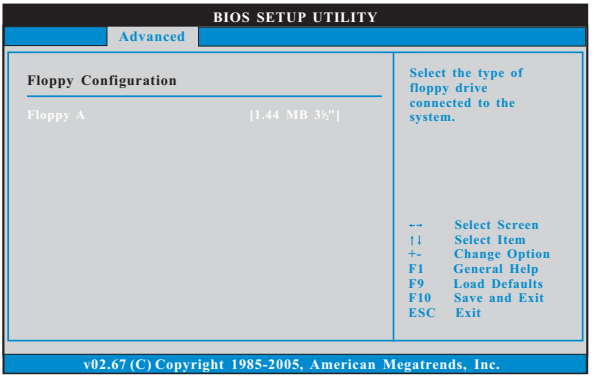
The default value is 32. It is recommended to keep the default value unless the installed PCI expansion cards' specifications require other settings.

PCI IDE BusMaster

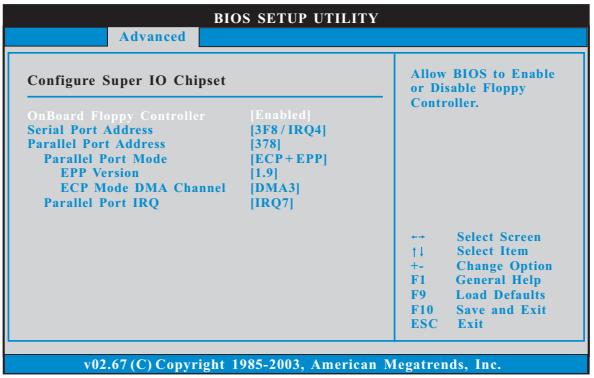
Use this item to enable or disable the PCI IDE BusMaster feature.

3.3.6 Floppy Configuration

In this section, you may configure the type of your floppy drive.



3.3.7 Super IO Configuration



OnBoard Floppy Controller

Use this item to enable or disable floppy drive controller.

Serial Port Address

Use this item to set the address for the onboard serial port or disable it. Configuration options: [Disabled], [3F8 / IRQ4], [2F8 / IRQ3], [3E8 / IRQ4], [2E8 / IRQ3].

Parallel Port Address

Use this item to set the address for the onboard parallel port or disable it. Configuration options: [Disabled], [378], and [278].

Parallel Port Mode

Use this item to set the operation mode of the parallel port. The default value is [ECP+EPP]. If this option is set to [ECP+EPP], it will show the EPP version in the following item, “EPP Version”. Configuration options: [Normal], [Bi-Directional], and [ECP+EPP].

EPP Version

Use this item to set the EPP version. Configuration options: [1.9] and [1.7].

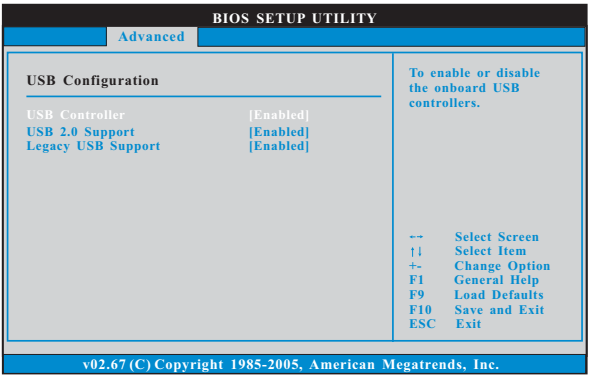
ECP Mode DMA Channel

Use this item to set the ECP mode DMA channel. Configuration options: [DMA0], [DMA1], and [DMA3].

Parallel Port IRQ

Use this item to set the IRQ for the parallel port. Configuration options: [IRQ5] and [IRQ7].

3.3.8 USB Configuration



USB Controller

Use this item to enable or disable the use of USB controller.

USB 2.0 Support

Use this item to enable or disable the USB 2.0 support.

Legacy USB Support

Use this option to select legacy support for USB devices. There are four configuration options: [Enabled], [Auto], [Disabled] and [BIOS Setup Only]. The default value is [Enabled]. Please refer to below descriptions for the details of these four options:

[Enabled] - Enables support for legacy USB.

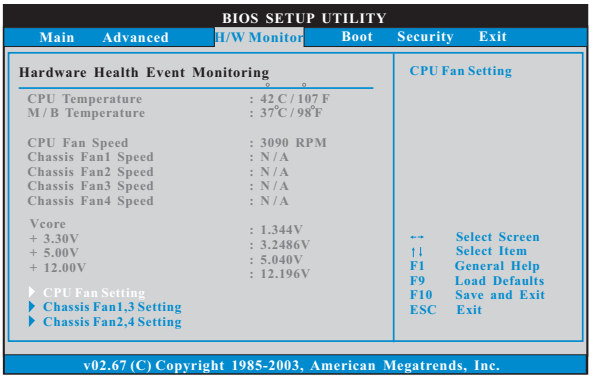
[Auto] - Enables legacy support if USB devices are connected.

[Disabled] - USB devices are not allowed to use under legacy OS and BIOS setup when [Disabled] is selected. If you have USB compatibility issue, it is recommended to select [Disabled] to enter OS.

[BIOS Setup Only] - USB devices are allowed to use only under BIOS setup and Windows / Linux OS.

3.4 Hardware Health Event Monitoring Screen

In this section, it allows you to monitor the status of the hardware on your system, including the parameters of the CPU temperature, motherboard temperature, CPU fan speed, chassis fan speed, and the critical voltage.



CPU Fan Setting

This item allows you to set the CPU Fan operation mode. If you set this option as [Full on], the CPU fan will operate in full speed. If you set this option as [Auto], you will find the items “Target CPU Temperature”, “Tolerance (°C)”, “Target Fan Speed”, “Output Step”, “Step Up Time” and “Step Down Time” appear to allow you adjusting them. If you set this option as [Manual], you can set the speed level of the CPU Fan

Target CPU Temperature

The target temperature will be between 45°C/113°F and 65°C/149°F. The default value is [45°C/113°F].

If CPU temperature is higher tan the TArget CPU Temperature + Tolerance temperature, the CPU Fan speed will increase.

Tolerance (°C)

The tolerance value of the target CPU temperature.

Target Fan Speed

The Fan Speed level is operated below Target CPU Temperature.

Output Step

The FANOUT value increase or decrease by this value in one step.

Step Up Time

The amount of time FANOUT takes to increase its value by one step. The unit is inteval of 0.1 second.

Step Down Time

The amount of time FANOUT takes to decrease its value by one step. The unit is interval of 0.1 second.

Chassis Fan 1,3 Setting

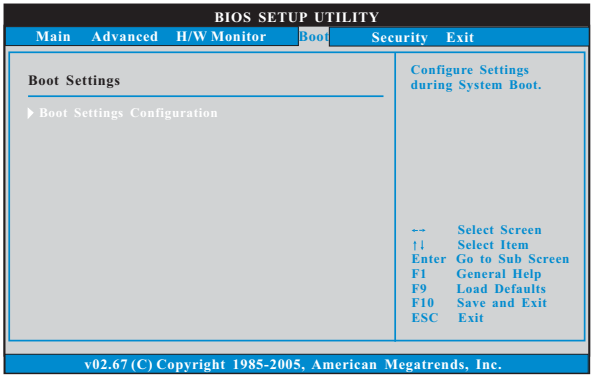
This item allows you to adjust the fan speed of fan 1 and 3, the higher the level the higher the fan speed. The default value is [Full on].

Chassis Fan 2,4 Setting

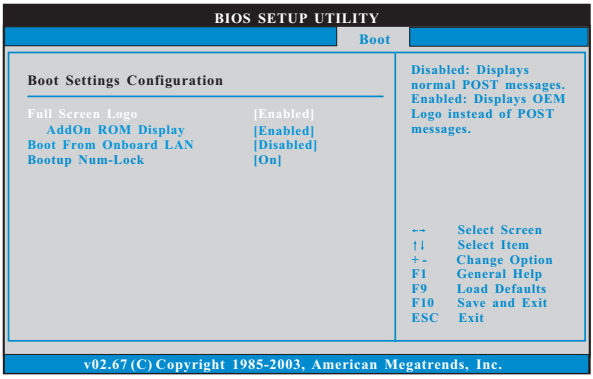
This item allows you to adjust the fan speed of fan 2 and 4, the higher the level the higher the fan speed. The default value is [Full on].

3.5 Boot Screen

In this section, it will display the available devices on your system for you to configure the boot settings and the boot priority.



3.5.1 Boot Settings Configuration



Full Screen Logo

Use this item to enable or disable OEM Logo. The default value is [Enabled].

AddOn ROM Display

Use this option to adjust AddOn ROM Display. If you enable the option "Full Screen Logo" but you want to see the AddOn ROM information when the system boots, please select [Enabled]. Configuration options: [Enabled] and [Disabled]. The default value is [Enabled].

Boot From Onboard LAN

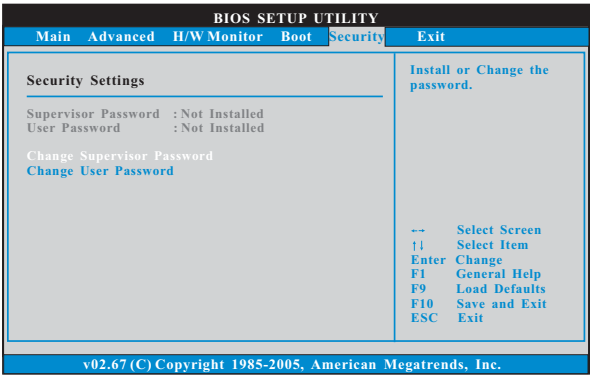
Use this item to enable or disable the Boot From Onboard LAN feature.

Boot Up Num-Lock

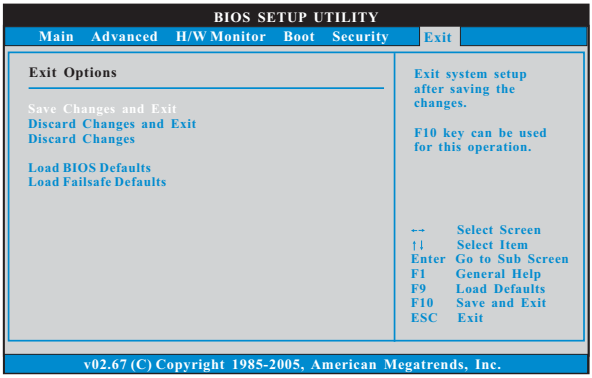
If this item is set to [On], it will automatically activate the Numeric Lock function after boot-up.

3.6 Security Screen

In this section, you may set or change the supervisor/user password for the system. For the user password, you may also clear it.



3.7 Exit Screen



Save Changes and Exit

When you select this option, it will pop-out the following message, “Save configuration changes and exit setup?” Select [OK] to save the changes and exit the BIOS SETUP UTILITY.

Discard Changes and Exit

When you select this option, it will pop-out the following message, “Discard changes and exit setup?” Select [OK] to exit the BIOS SETUP UTILITY without saving any changes.

Discard Changes

When you select this option, it will pop-out the following message, “Discard changes?” Select [OK] to discard all changes.

Would you like to save current setting user defaults?

In this option, you are allowed to load and save three user defaults according to your own requirements.

Chapter 4 Software Support

4.1 Install Operating System

This motherboard supports various Microsoft® Windows® operating systems: 2000 / XP / XP 64-bit / Vista™ / Vista™ 64-bit. Because motherboard settings and hardware options vary, use the setup procedures in this chapter for general reference only. Refer to your OS documentation for more information.

4.2 Support CD Information

The Support CD that came with the motherboard contains necessary drivers and useful utilities that enhance the motherboard features.

4.2.1 Running The Support CD

To begin using the support CD, insert the CD into your CD-ROM drive. The CD automatically displays the Main Menu if "AUTORUN" is enabled in your computer. If the Main Menu did not appear automatically, locate and double click on the file "ASSETUP.EXE" from the BIN folder in the Support CD to display the menus.

4.2.2 Drivers Menu

The Drivers Menu shows the available devices drivers if the system detects installed devices. Please install the necessary drivers to activate the devices.

4.2.3 Utilities Menu

The Utilities Menu shows the applications software that the motherboard supports. Click on a specific item then follow the installation wizard to install it.

4.2.4 Contact Information

If you need to contact ASRock or want to know more about ASRock, welcome to visit ASRock's website at http://www.asrock.com; or you may contact your dealer for further information.

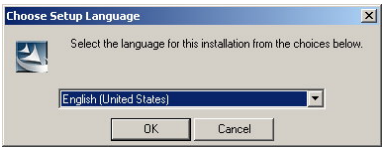
Chapter 5 huperVision Software Installation

5.1 Easy Steps to install software

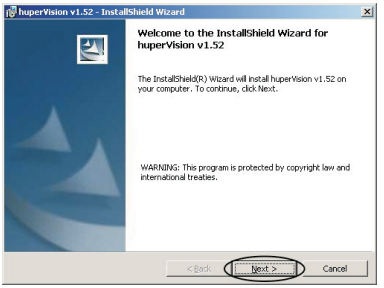
Follow the steps 1-7 to install huperVision.

1. Insert huperVision installation CD. Auto Run will start up as below.

2. Press [Install huperVision] button to start huperVision installation program. Then select installation language from Setup Language dialog and press [OK] button to begin installation.

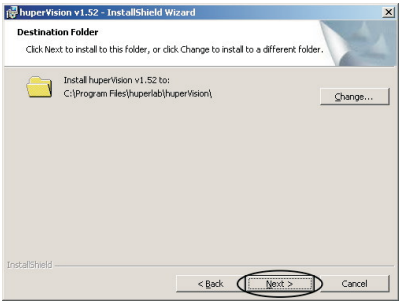


Start installion, press [Next] to continue.

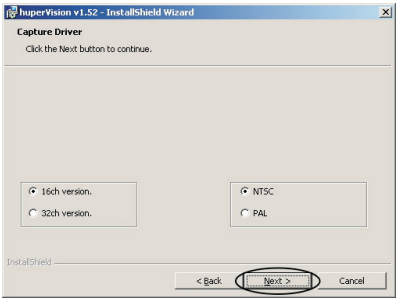


3. Please choose **[I accept the terms in the license agreement]** and then press **[Next]** to continue.

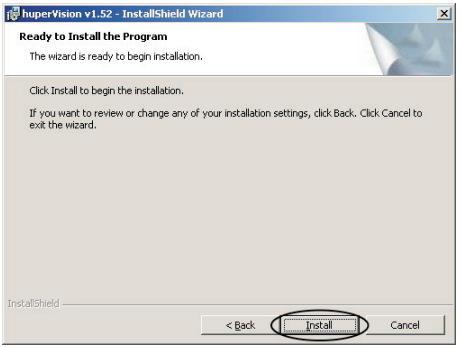
4. Choose destination folder. The default path for installation is C:\Program Files\huperVision\. Press **[Change...]** if you want to install to another folder. Press **[Next]** to continue if the destination folder is confirmed.



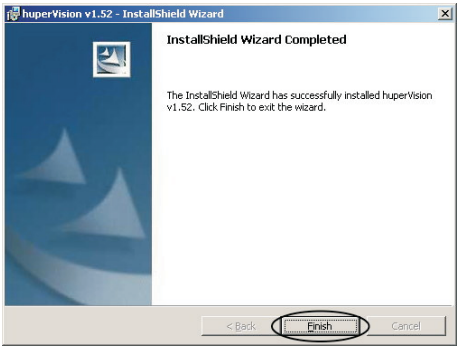
5. Select Capture Card Driver. Please select 16ch version for Gaia 404 / Gaia 408 / Gaia 416. Then choose correct Video standard (NTSC/PAL) and press **[Next]** to continue.



6. Press **[Install]** to start installing program & capture card driver. Press [Back] if you want to change installation options.



7. Press **[Finish]** to end installation. Please press **[Yes]** to initial huperVision site server program when he installer asking for a reboot.

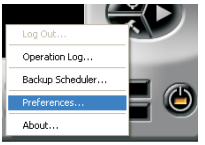


5.2 Start Recording Instruction

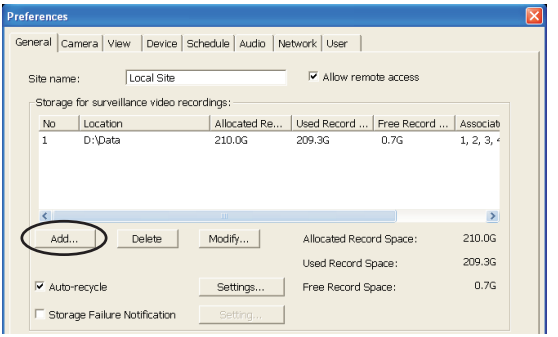
Follow the steps below to start recording.

1. Manually reboot after installation, huperVision site server program is launching with a pop-up warning message to notify that you have not assigned a recording path.

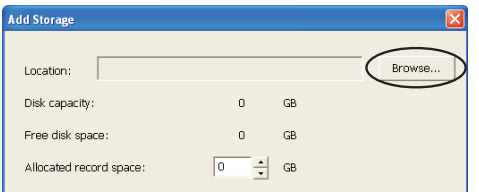
2. Press the [Hammer] button  & select [Preferences...] to display Preferences General page.



3. Press the [Add...] button to add a new folder to store your recording data files.

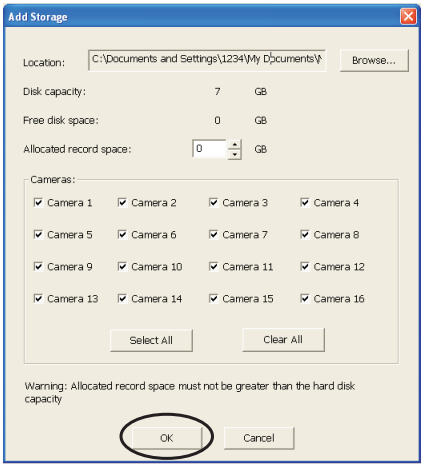


4. Press [Browser...] button in the Add Storage dialog box.



5. Set storage location in existed folder or create new folder. To create new folder, select a drive or folder then press**[Make New Folder}**. Select target location and press **[OK]** to set storage path.

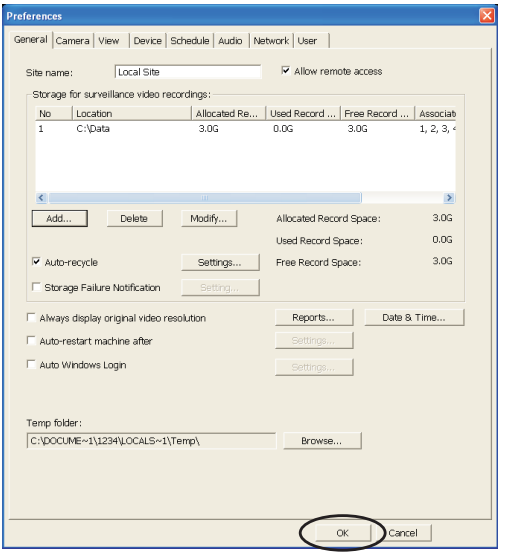
6. After setting storage location, press[OK] button to save.



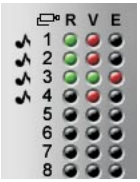
Note:

Please keep the all 16 cameras be checked even if you don't have that much cameras. Please also do NOT change the allocated record space value by its automatic decision.

7. After create the folder, press the [OK] button of the Preference page to finish settings.



8. The **R** LED turns green at upper right side, indicates that available channels are recording now.

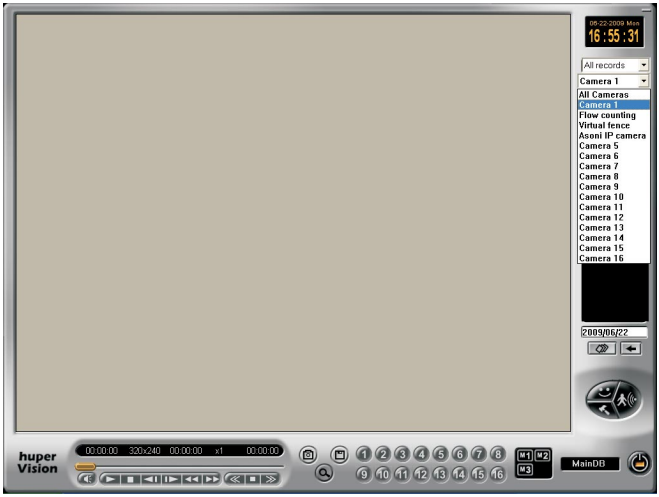


5.3 Playback Recordings Instruction

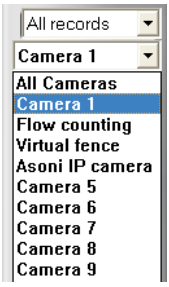
Follow the steps 1-7 to start recording.

1. Launch the huperVision Record Player program by clicking the icon 

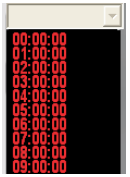
2. Record Player pop up as below while site server still working in the background.



3. Select playback channel from camera list or All Cameras.



4. Select a time mark from list to load video records.



5. After loading (running progress bar) video, press Play button to start playing selected recordings.

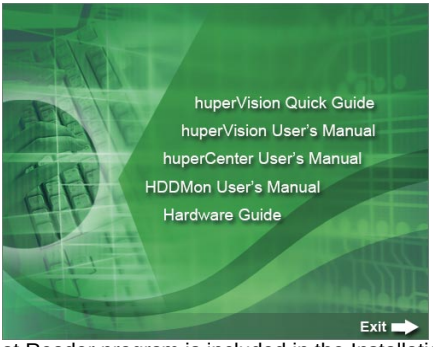
6. Repeat from Step3 to Step5 if want to playback different channel.

7. Press **[Power off]**  button to exit Record Player and back to site server.

Note:
Press this Power off button will NOT close the running huperVision site server. There is also a protection for accident press the huperVision site server power button, a confirm dialog box will pop up before shutting down huperVision site server main program.

Now you are ready to use huperVision IVS system, for more operation guide on Intelligent Video Functions, please refer to full Users Manual.

To find User's Manual, insert installation CD and press [Document] >> [User's Manual] in auto-run panel.



The Acrobat Reader program is included in the Installation CD under \English\Doc\aar.exe