



Gaia 404 / Gaia 408 / Gaia 416-60 / Gaia 416-120

Quick Guide

Version 1.0

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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

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Chapter 1 Introduction

Thank you for purchasing huperLab **Gaia404 / Gaia408 / Gaia416-60 / Gaia416-120** 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. Chapter 5 contains installation instruction for huperLab software.



Because the motherboard specifications and the BIOS software might be updated, the content of this manual will be subject to change without prior notice. In case any modifications of this manual occur, the updated version will be available on huperLab website.

huperLab website <http://www.huperlab.com>

If you require technical support related to this motherboard, please visit the website for specific information about the model you are using.

<http://www.huperlab.com/bboard/>

1.1 Package Contents

huperLab **Gaia404 / Gaia408 / Gaia416-60 / Gaia 416-120** Motherboard (Mini-ITX Form Factor: 6.7-in x 6.7-in, 17.0 cm x 17.0 cm)

huperLab **Gaia404 / Gaia408 / Gaia416-60 / Gaia 416-120** User Guide

huperLab **Gaia404 / Gaia408 / Gaia416-60 / Gaia 416-120** Driver & Utility Support CD

huperVision 4000 Software CD

Motherboard Accessories

Gaia404: One 4CH Video in & Audio in Cable

Gaia408: One 8CH Video in & Audio in Cable

Gaia416-60 / Gaia 416-120: One 16CH Video in Cable

I/O shield

Audio in Cable with bracket (Optional)

Two Serial ATA (SATA) Data Cable(Optional)

1.2 Specifications

Platform	- Mini-ITX Form Factor: 6.7-in x 6.7-in, 17.0 cm x 17.0 cm - Solid Capacitor design (100% Japan-made high-quality Conductive Polymer Capacitors)
CPU	- Intel® Dual-Core Atom™ Processor 330 - Supports FSB533 MHz - Supports Hyper-Threading Technology (see CAUTION 1) - Supports EM64T CPU
Chipset	- Northbridge: Intel® 945GC - Southbridge: Intel® ICH7
Memory	- Dual Channel DDR2 Memory Technology (see CAUTION 2) - 2 x DDR2 SODIMM slots - Supports DDR2 533 / 667 / 800 SODIMM, run at 533 speed, non-ECC, un-buffered memory - Max. capacity of system memory: 4GB (see CAUTION 3)
Expansion Slot	- 1 x PCI Express slot
Graphics	- Intel® Graphics Media Accelerator 950 - Pixel Shader 2.0, DirectX 9.0 - Max. shared memory 224MB (see CAUTION 4)
Audio	- 5.1 CH Windows® Vista™ Premium Level HD Audio (Realtek ALC662 Audio Codec)
LAN	- 2 x PCIE Gigabit LAN 10 / 100 / 1000 Mb/s - Realtek RTL8111DL - Supports Wake-On-LAN - Supports 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 - 4 x Ready-to-Use USB 2.0 Ports - 2 x RJ-45 LAN Ports with LED (ACT/LINK LED and SPEED LED) - HD Audio Jack: Line in / Front Speaker / Microphone
Connector	- 4 x SATAII 3.0 Gb/s connectors (No Support for RAID and "Hot Plug" functions) (see CAUTION 5) - 1 x ATA100 mini IDE connector with 5V power (supports 2 x IDE devices) - System / NB FAN connector - 24 pin ATX power connector

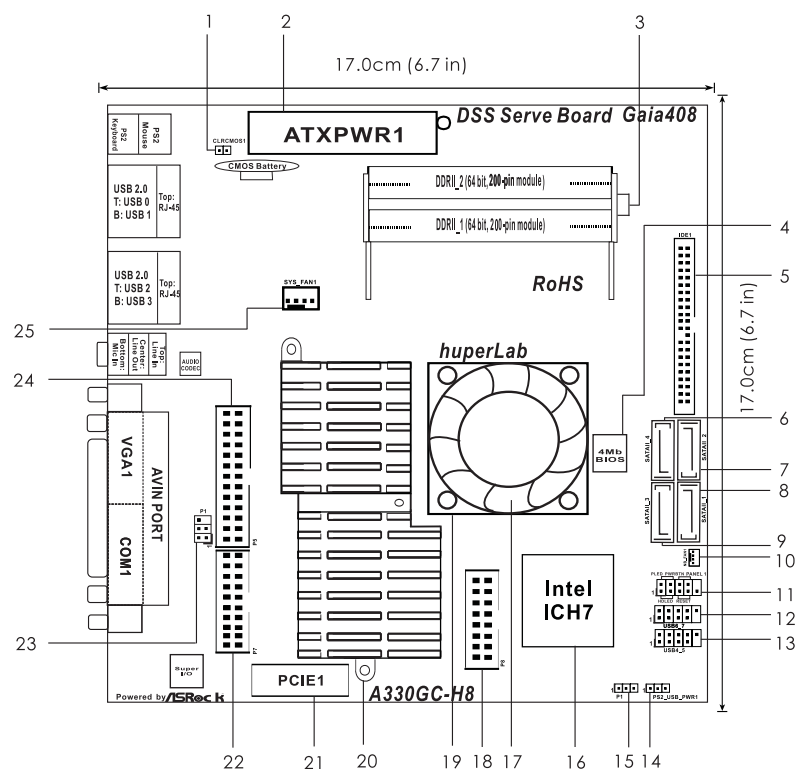
	- 2 x USB 2.0 headers (support 4 USB 2.0 ports) (see CAUTION 6) - 16 pin GPIO connector (support 8 GPIO) - 20 pin Audio input connector (support 16CH Audio in) - 26 pin Video input connector
BIOS Feature	- 4Mb AMI BIOS - AMI Legal BIOS - Supports "Plug and Play" - ACPI 1.1 Compliance Wake Up Events - AMBIOS 2.3.1 Support - Supports Smart BIOS
Support CD	- Drivers, Utilities, Antivirus Software (Trial Version), huperVision 4000 Surveillance Software Suite
Unique Feature	- ASRock Instant Flash (see CAUTION 7) - Hybrid Booster: - ASRock U-COP - Boot Failure Guard (B.F.G.)
Hardware Monitor	- System Temperature Sensing - CPU Temperature Sensing - NB Fan Tachometer - System Fan Tachometer - System Quiet Fan - Voltage Monitoring: +12V, +5V, +3.3V, Vcore
OS	- Microsoft® Windows® XP / Vista™
Certifications	- FCC, CE

* For detailed product information, please visit website: <http://www.hyperlab.com>

CAUTION!

1. About the setting of "Hyper Threading Technology", please refer to section 3.4.1 (page 23)
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 in section 2.3 (page 13) for proper installation.
3. Due to chipset and CPU limitation, the actual memory size might be less than 4GB for the reservation of system usage under Windows® XP, Windows® Vista™.
4. The maximum shared memory size is defined by the chipset vendor and is subject to change. Please check Intel® website for the latest information.
5. Before installing SATAII hard disk to SATAII connector, please read "SATAII Hard Disk Setup Guide" in section 2.8 (page 18) to adjust your SATAII hard disk drive to SATAII mode. You can also connect SATA hard disk to SATAII connector directly.
6. Power Management for USB 2.0 works fine under Microsoft® Windows® Vista™ / XP SP1 or SP2.
7. 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.

1.3 Motherboard Layout Gaia404 (A330GC-H4) / Gaia408 (A330GC-H8)



- | | | | |
|----|--|----|---------------------------------|
| 1 | Clear CMOS Jumper (CLRCMOS1) | 13 | USB 2.0 Header (USB 4_5, Blue) |
| 2 | ATX Power Connector (ATXPWR1) | 14 | PS2_USB_PWR1 Jumper |
| 3 | 2 x 200-pin DDR2 SODIMM Slots
(Dual Channel: DDR1_1, DDR1_2; White) | 15 | Watchdog Function Jumper |
| 4 | BIOS SPI Chip | 16 | South Bridge Controller |
| 5 | IDE1 Connector (IDE1) | 17 | NB Fan |
| 6 | SATAII Connector (SATAII_4; Orange) | 18 | GPIO |
| 7 | SATAII Connector (SATAII_2; Red) | 19 | North Bridge Controller |
| 8 | SATAII Connector (SATAII_1; Red) | 20 | CPU Heat Sink |
| 9 | SATAII Connector (SATAII_3; Orange) | 21 | PCIE Slot (PCIE1) |
| 10 | NB Fan Connector (NB_Fan1) | 22 | Audio In |
| 11 | System Panel Header (PANEL1; Orange) | 23 | Composite Out |
| 12 | USB 2.0 Header (USB 6_7, Blue) | 24 | Video In |
| | | 25 | System Fan Connector (SYS_FAN1) |

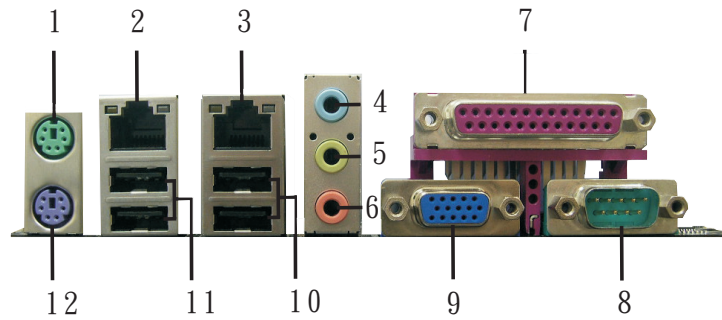
The diagram illustrates the layout of the DSS Serve Board Gaia416, a compact computer system. The board is 17.0cm (6.7 in) wide and 17.0cm (6.7 in) high. Key components and their locations are as follows:

- Power and Storage:** ATXPWR1 power supply, CMOS Battery, and A330GC-H16 storage device.
- Memory:** DDR1_1 and DDR1_2 (64-bit, 200-pin module) memory modules.
- Processor and Chipset:** Intel ICH7 chipset and AMD BIOS.
- Connectivity:** AVIN PORT, COM1, VGA1, USB 2.0, T.USB 0, B.USB 1, USB 2.0, T.USB 2, B.USB 3, PS2, Mouse, Keyboard, PS2, and USB 2.0.
- Other Components:** RoHS, huperLab, PCIE1, and a 12V 1A power supply.

The board is powered by a 12V 1A power supply. The diagram includes a coordinate system with X and Y axes ranging from 1 to 25 and 1 to 13 respectively.

- | | | | |
|----|--|----|---------------------------------|
| 1 | Clear CMOS Jumper (CLRCMOS1) | 13 | USB 2.0 Header (USB 4_5, Blue) |
| 2 | ATX Power Connector (ATXPWR1) | 14 | PS2_USB_PWR1 Jumper |
| 3 | 2 x 200-pin DDR2 SODIMM Slots
(Dual Channel: DDR1L_1, DDR1L_2; White) | 15 | Watchdog Function Jumper |
| 4 | BIOS SPI Chip | 16 | South Bridge Controller |
| 5 | IDE1 Connector (IDE1) | 17 | NB Fan |
| 6 | SATAII Connector (SATAII_4; Orange) | 18 | GPIO |
| 7 | SATAII Connector (SATAII_2; Red) | 19 | North Bridge Controller |
| 8 | SATAII Connector (SATAII_1; Red) | 20 | CPU Heat Sink |
| 9 | SATAII Connector (SATAII_3; Orange) | 21 | PCIE Slot (PCIE1) |
| 10 | NB Fan Connector (NB_Fan1) | 22 | Audio In |
| 11 | System Panel Header (PANEL1;Orange) | 23 | Composite Out |
| 12 | USB 2.0 Header (USB 6_7, Blue) | 24 | Video In |
| | | 25 | System Fan Connector (SYS_FAN1) |

1.5 I/O Panel



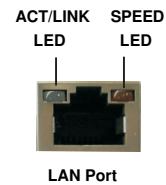
- | | |
|---------------------------|--------------------------------|
| 1 PS/2 Mouse Port (Green) | 7 AV IN Port |
| *2 LAN RJ-45 Port (LAN1) | 8 COM Port |
| *3 LAN RJ-45 Port (LAN2) | 9 VGA Port |
| 4 Line In (Light Blue) | 10 USB 2.0 Ports (USB23) |
| 5 Front Speaker (Lime) | 11 USB 2.0 Ports (USB01) |
| 6 Microphone (Pink) | 12 PS/2 Keyboard Port (Purple) |

* 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
On	Link

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



Chapter 2 Installation

Gaia404 / Gaia408 / Gaia416-60 / Gaia416-120 are a Mini-IXT form factor (6.7" x 6.7", 17.0 x 17.0 cm) motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it.



Before installation or removal of the motherboard, please ensure to unplug the power cord. Failure to do so may cause physical injuries 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 Installation of Memory Modules (SODIMM)

Gaia404 / Gaia408 / Gaia416-60 / Gaia416-120 motherboard provides two 200-pin DDR2 (Double Data Rate 2) SODIMM 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 DDR2 SODIMM slots to activate Dual Channel Memory Technology. Otherwise, it will operate at single channel mode.



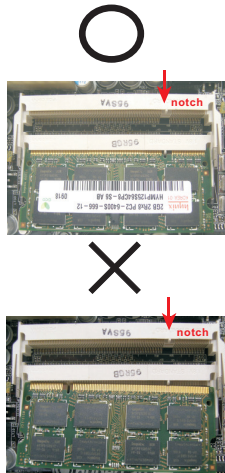
1. It is not allowed to install a DDR memory module into DDR2 slot; otherwise, this motherboard and SODIMM may be damaged.
2. If you install only one memory module or two non-identical memory modules, it is unable to activate the Dual Channel Memory Technology.

Installing a SODIMM



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

- Step 1. Unlock a SODIMM slot by pressing the retaining clips outward.
- Step 2. Align a SODIMM on the slot such that the notch on the SODIMM matches the break on the slot.



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

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

2.4 Expansion Slot (PCIE Slot)

There is One PCIE slot on this motherboard.

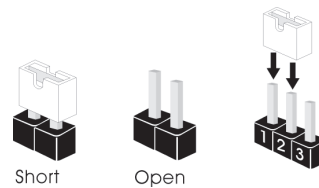
PCIE slot: PCIE slot is used for PCI Express cards with x 1 lane width cards, such as Gigabit LAN card, SATA2 card, etc.

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.

2.5 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 No. 14)		Short pin2, pin3 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 No. 1)	
	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 (see p.9/10 No. 15)		Short pin1-2 to enable watchdog, short pin 2-3 to disable watchdog.
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2.4 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

(43-pin IDE1, see p.10/11 No. 5)



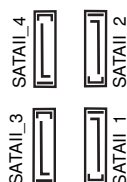
Serial ATAII Connectors

(SATAII_1: see p.9/10, No. 8)

(SATAII_2: see p.9/10, No. 7)

(SATAII_3: see p.9/10, No. 9)

(SATAII_4: see p.9/10, No. 6)



These Serial ATAII (SATAII) connectors support SATAII or SATA 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

(Optional)

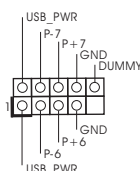


Either end of the SATA data cable can be connected to the SATA / SATAII hard disk or the SATAII

USB 2.0 Headers

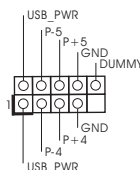
(9-pin USB6_7)

(see p.9/10 No. 12)



(9-pin USB4_5)

(see p.9/10 No. 13)

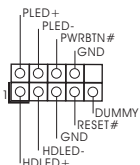


connector on the motherboard. Besides two default USB 2.0 ports on the I/O panel, there are two USB 2.0 headers on this motherboard. Each USB 2.0 header can support two USB 2.0 ports.

System Panel Header

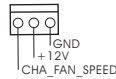
(9-pin PANEL1)

(see p.9/10 No. 11)



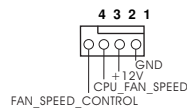
This header accommodates several system front panel functions.

NB Fan Connector
(3-pin NB_FAN1)
(see p.9/10 No. 10)



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

System Fan Connector
(4-pin SYS_FAN1)
(see p.9/10 No. 25)



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

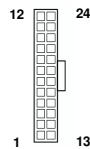


Though this motherboard provides 4-Pin System fan (Quiet Fan) support, the 3-Pin System fan still can work successfully even without the fan speed control function. If you plan to connect the 3-Pin fan to the System fan connector on this motherboard, please connect it to Pin 1-3.

Pin 1-3 Connected
3-Pin Fan Installation



ATX Power Connector
(24-pin ATXPWR1)
(see p.9/10 No. 2)



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.

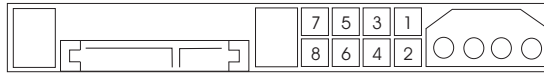
20-Pin ATX Power Supply Installation



2.7 SATAII Hard Disk Setup Guide

Before installing SATAII hard disk to your computer, please carefully read SATAII hard disk setup guide below. Some default setting of SATAII hard disks may not be at SATAII mode, which operates with the best performance. In order to enable SATAII function, please follow the 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.

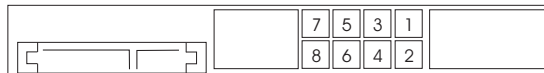
Western Digital



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.

2.8 Serial ATA (SATA) / Serial ATAII (SATAII) Hard Disks

Installation

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

STEP 1: Install the SATA / SATAII hard disks into the drive bays of your chassis.

STEP 2: Connect the SATA power cable to the SATA / 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 SATA / SATAII hard disk.

2.9 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 accordingly to install those required drivers.

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
Smart	To load the BIOS according to your requirements
Advanced	To set up the advanced BIOS features
H/W Monitor	To monitor and set up the hardware features
Boot	To set up the default system device to locate and load the operating System
Security	To set up the security 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.

Gaia404 (A330GC-H4) / Gaia408 (A330GC-H8)

BIOS SETUP UTILITY	
Main	Smart Advanced H/W Monitor Boot Security Exit
System Overview	
System Time	[: :00:09]
System Date	[Mon 08/03/2009]
BIOS Version : Gaia408 P1.00	
Processor Type : Intel(R) Atom(TM) CPU 330 @ 1.60GHz (64bit)	
Processor Speed : 1600MHz	
Microcode Update : 106C2/20D	
Cache Size : 1024KB	
Total Memory : 2048MB with 8MB shared memory	
Dual-Channel Memory Mode	
DDRHI1 : 1048MB/266MHz (DDRHI533)	
DDRHI2 : 1048MB/266MHz (DDRHI533)	
Use [Enter], [TAB] or [SHIFT-TAB] to select a field.	
Use [+] or [-] to configure system Time.	
→	Select Screen
↑↓	Select Item
+/-	Change Field
Tab	Select Field
F1	General Help
F9	Load Defaults
F10	Save and Exit
ESC	Exit
v02.54 (C) Copyright 1985-2005, American Megatrends, Inc.	

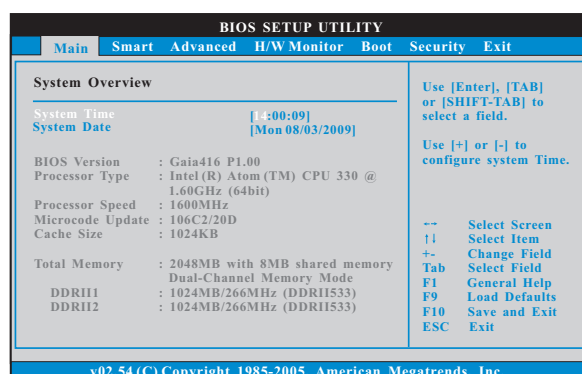
System Time [Hour:Minute:Second]

Use this item to specify the system time.

System Date [Day Month/Date/Year]

Use this item to specify the system date.

Gaia416-60 (A330GC-H16-60) / Gaia416-120 (A330GC-H16-120)



System Time [Hour:Minute:Second]

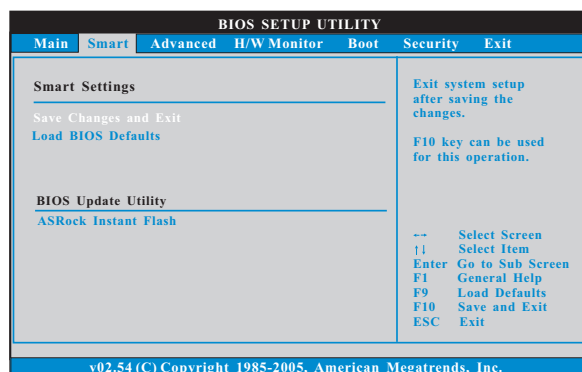
Use this item to specify the system time.

System Date [Day Month/Date/Year]

Use this item to specify the system date.

3.3 Smart Screen

In the Smart screen, you can load the BIOS setup according to your requirements.



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.

Load BIOS Defaults

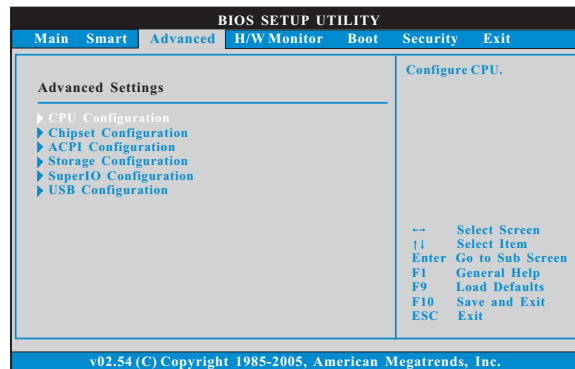
Load BIOS default values for all the setup questions. F9 key can be used for this operation.

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.

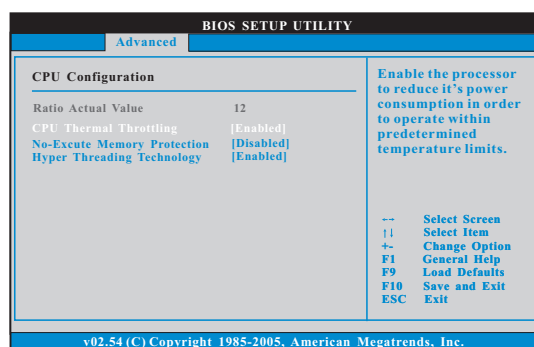
3.4 Advanced Screen

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



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

3.4.1 CPU Configuration



Ratio Actual Value

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

CPU Thermal Throttling

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

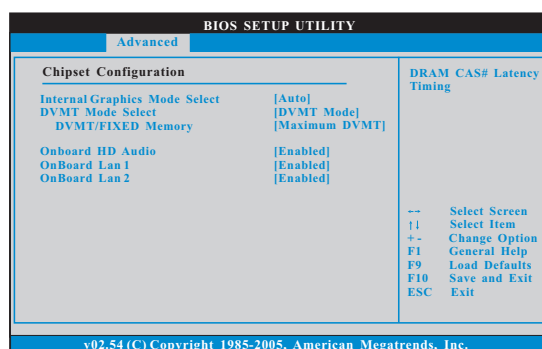
No-Execute Memory Protection

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.

3.4.2 Chipset Configuration



Internal Graphics Mode Select

If you select [Auto], the onboard VGA will be automatically disabled when you install VGA card; the onboard VGA will be enabled without the installation of any add-on VGA card. If you select [Enabled, 8MB] or [Enabled, 1MB], the onboard VGA will be enabled.

DVMT Mode Select

Use this option to adjust DVMT mode. Configuration options: [Fixed Mode], [DVMT Mode] and [Fixed+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 Fixed mode, a fixed-size fragment of the system memory is allocated to the graphics core. In DVMT mode, the graphics driver allocates memory as needed for running graphics applications and is cooperatively using this memory with other system components. In Fixed+DVMT mode, the graphics processor gets a fixed-size chunk of 64MB of memory and up to 64MB of dynamically-allotted memory. This mode guarantees that at least 64MB of memory is available to the graphics core, with a possibility to increase this amount to 128MB, if necessary. 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: [64MB], [128MB] and [Maximum DVMT].

Onboard HD Audio

Select [Enabled] or [Disabled] for the onboard HD Audio feature.

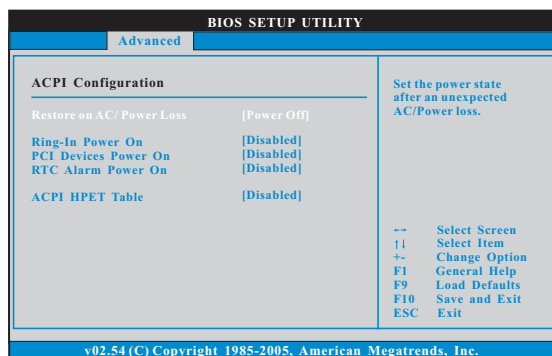
OnBoard Lan 1

This allows you to enable or disable the "OnBoard Lan 1" feature.

OnBoard Lan 2

This allows you to enable or disable the "OnBoard Lan 2" feature.

3.4.3 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. User can enable "Restore AC/ power off." The default value is [Power Off].

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.

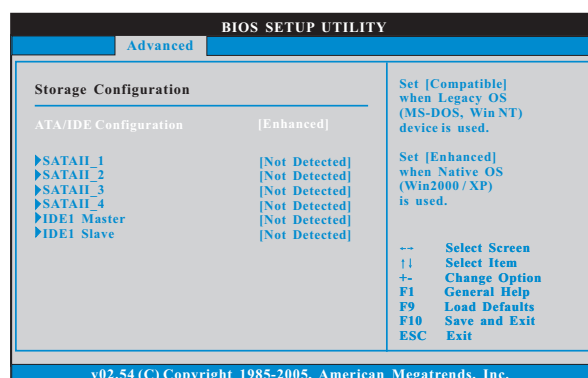
RTC Alarm Power On

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.

3.4.4 Storage Configuration

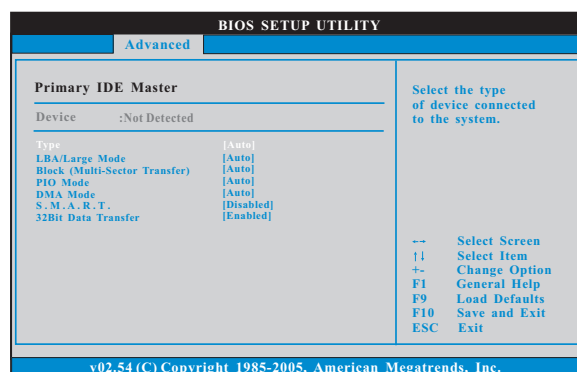


ATA/IDE Configuration

Please select [**Compatible**] when you install legacy OS (Windows® NT). If native OS (Windows® 2000 / XP / Vista™) is installed, please select [**Enhanced**].

IDE Device Configuration

You may set the IDE configuration for the device that you specify. We will use the "Primary IDE Master" as the example in the following instruction.



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 for write or read data from the hard disk drives. Make sure to set the partition of the Primary IDE hard disk drives to active.

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.

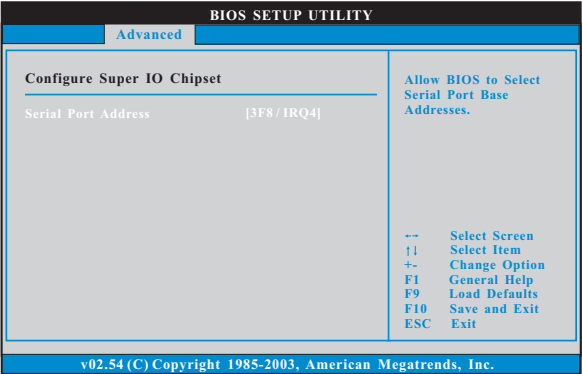
S.M.A.R.T.

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.

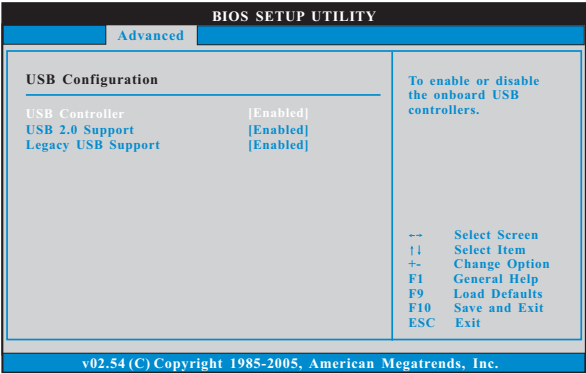
3.4.5 Super IO Configuration



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].

3.4.6 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.

3.5 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.

BIOS SETUP UTILITY	
Main	Smart Advanced H/W Monitor Boot Security Exit
Hardware Health Event Monitoring	
CPU Temperature	: 34°C / 93°F
M/B Temperature	: 31°C / 87°F
NB Fan Speed	: 4218 RPM
System Fan Speed	: 2721 RPM
Vcore	: 1.208V
+ 3.30V	: 3.328V
+ 5.00V	: 4.848V
+ 12.00V	: 12.460V
System Fan Setting	[Full on]
Fan configuration mode setting	
-- Select Screen	
F1 Select Item	
F1 General Help	
F9 Load Defaults	
F10 Save and Exit	
ESC Exit	
v02.54 (C) Copyright 1985-2003, American Megatrends, Inc.	

System Fan Setting

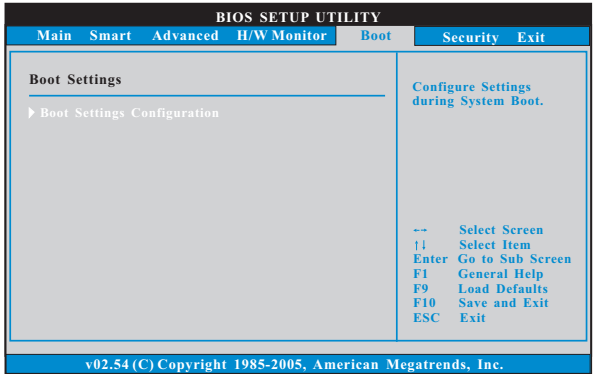
The system fan improves the air circulation of the computer's enclosure.

Use this option to adjust the fan speed. The default value is [Full On].

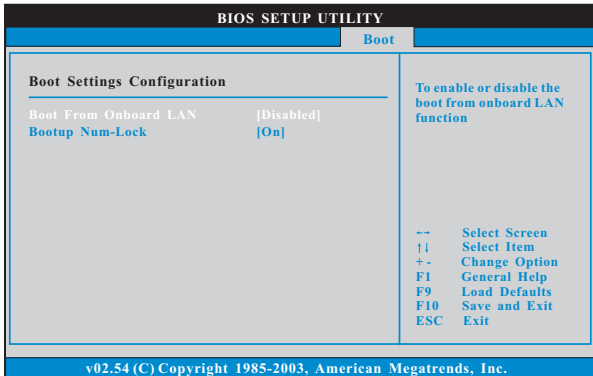
Configuration options: [Full On], [Manual]. Manual allow user to set Target Fan Speed from level 1-9

3.6 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.



3.6.1 Boot Settings Configuration



Boot From Onboard LAN

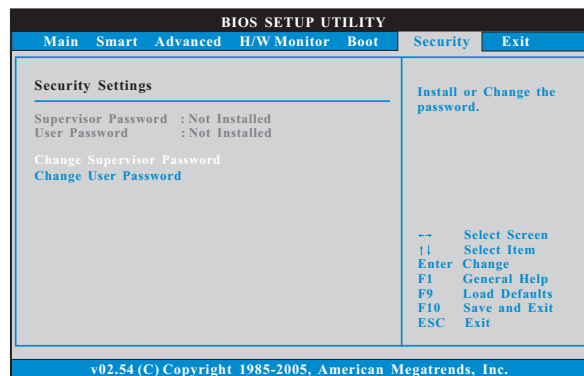
Use this item to enable or disable the Boot From Onboard LAN feature.

Boot up Num-Lock

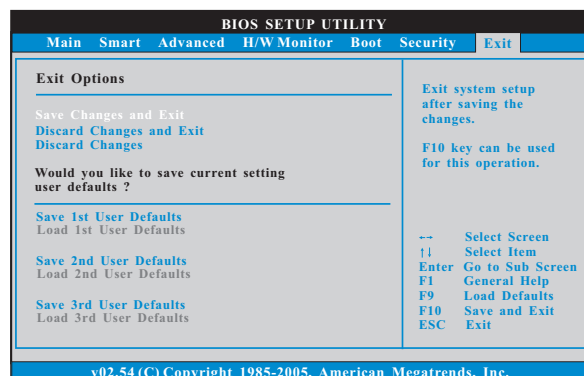
Use this item to turn on or off the numeric keypad feature.

3.7 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.



3.8 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: XP / Vista™. 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

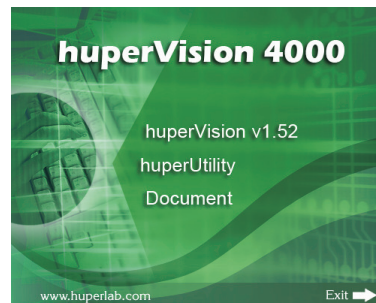
If you need to contact huperLab or want to know more about huperLab, welcome to visit huperLab's website at <http://www.huperlab.com>; or you may contact your dealer for further information.

Chapter 5 hyperVision Software Installation

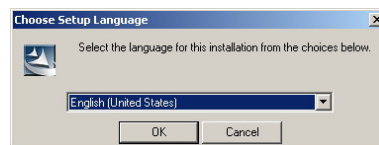
5.1 Easy Steps to install software

Follow the steps 1-7 to install hyperVision.

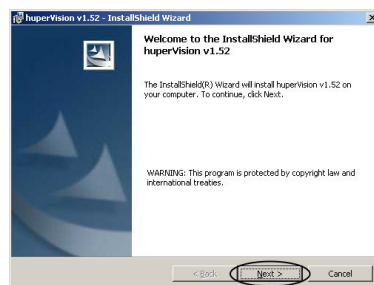
1. Insert hyperVision installation CD. Auto Run will start up as below.



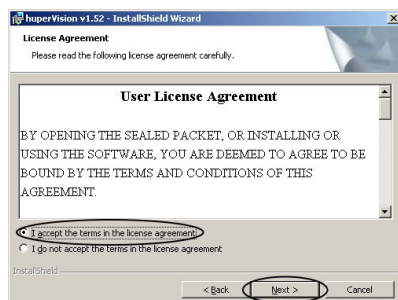
2. Press [Install hyperVision] button to start hyperVision installation program.
Then select installation language from Setup Language dialog and press [OK] button to begin installation.



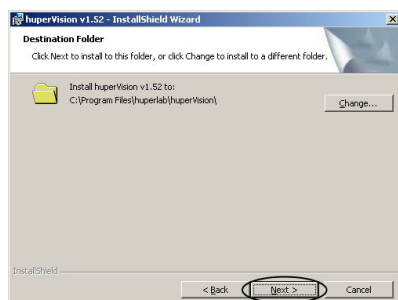
Start installation, press [Next] to continue.



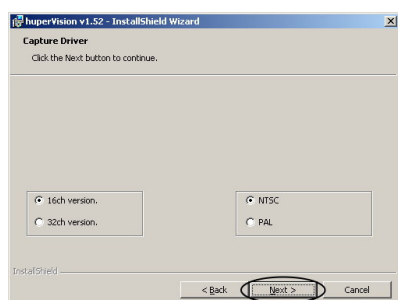
3. Please choose **[I accept the terms in the license agreement]** and then press **[Next]** to continue.



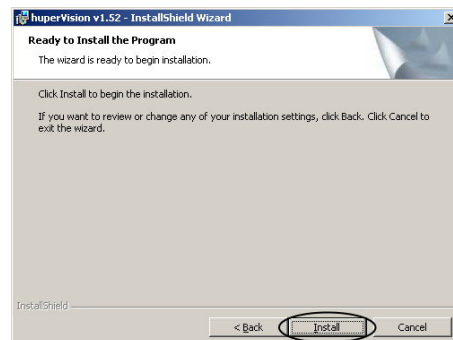
4. Choose destination folder. The default path for installation is C:\Program Files\hyperVision\. Press **[Change...]** if you want to install to another folder. Press **[Next]** to continue if the destination folder is confirmed.



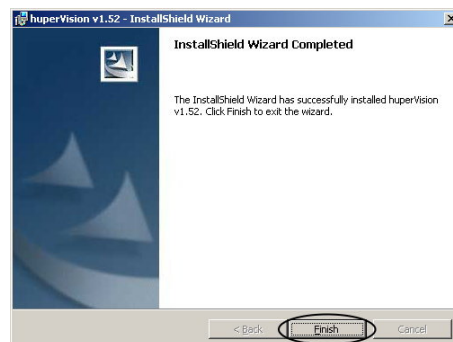
5. Select Capture Card Driver. Please select 16ch version for Gaia 404 / Gaia 408 / Gaia 416. Then choose correct Video standard (NTSC/PAL) and press **[Next]** to continue.



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. You may probably need a reboot to initial huperVision site server program.



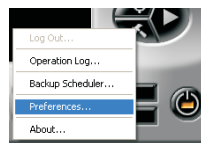
5.2 Start Recording Instruction

Follow the steps below to start recording.

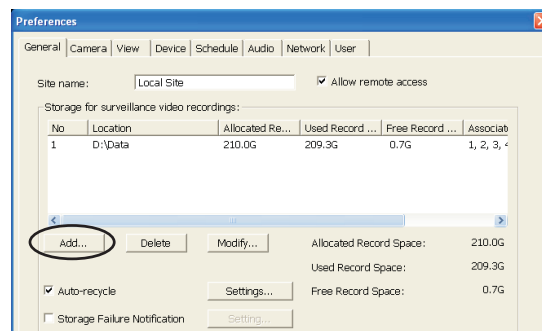
1. Manually reboot after installation, huperVision site server program is launching with a pop-up warning message to notify that you have not assigned a recording path.



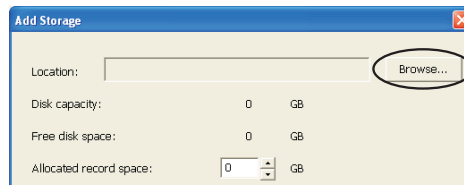
2. Press the [Hammer] button  & select [Preferences...] to display Preferences General page.



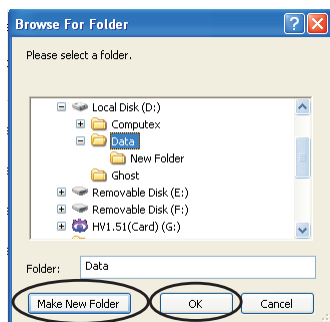
3. Press the [Add...] button to add a new folder to store your recording data files.



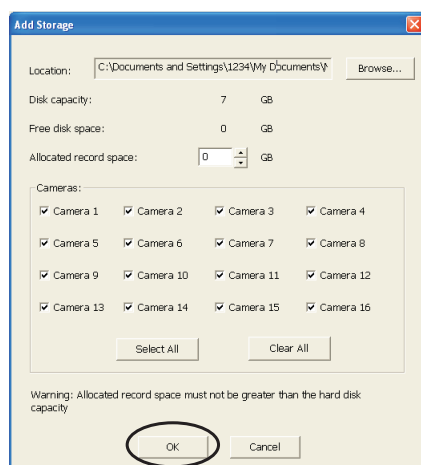
4. Press [Browser...] button in the Add Storage dialog box.



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.



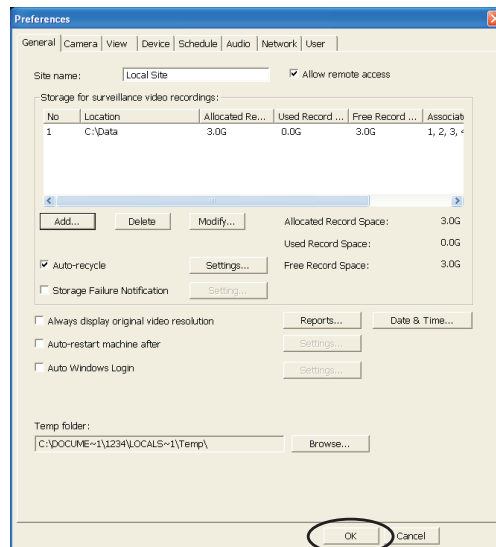
6. After setting storage location, press **[OK]** button to save.



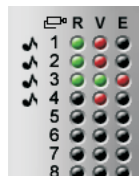
Note:

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.



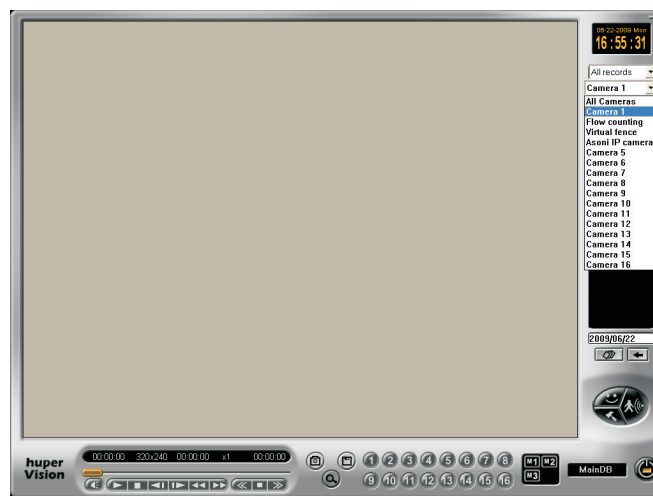
8. The **R** LED turns green at upper right side, indicates that available channels are recording now.



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.

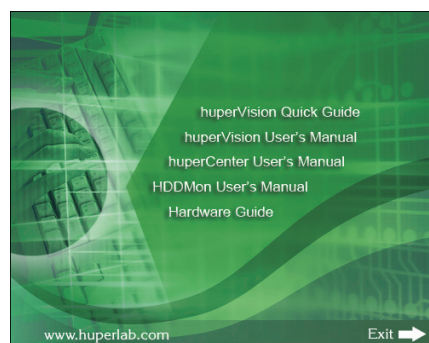
Note:

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