NEXCOM International Co., Ltd.

Intelligent Digital Security

Intelligent Survillance Solution

NViS 6210/6220

User Manual

NEXCOM International Co., Ltd.
Published March 2012

www.nexcom.com

Contents

Preface iv

Copyright iv
Disclaimer iv
Acknowledgements iv
Regulatory Compliance Statements iv
Declaration of Conformity iv
RoHS Compliance v
Warranty and RMA vi
Safety Information vii
Installation Recommendations vii
Safety Precautions viii
Technical Support and Assistance ix
Conventions Used in this Manual ix
Global Service Contact Information x
Package Contents xii
Ordering Information xiii

Chapter 1: Product Introduction 1

Overview 1
Hardware Specifications 4
Knowing Your NViS 6210 8
Knowing Your NViS 6220 13
Mechanical Dimensions 18

Chapter 2: Jumpers and Connectors 6

Before You Begin 20
Precautions 20
Jumper Settings 21
Locations of the Jumpers and Connectors 22
Jumpers 23
CMOS Clear Select 23
ME Clear Select 23
Power Mode Select 24
Connector Pin Definitions 25
External I/O Interfaces 25
Audio Jacks 25
LAN1 and USB0/1 Ports 25
LAN2 and USB2/3 Ports 26
HDMI 26
VGA and DVI-D Ports 27
Video and Audio In Ports 28

Internal Connectors 29
CPU Fan Connector 29
ATX Power Output Connector 29
ATX Power Connector 30
System Fan Connectors 30
COM1 Connector 31
COM2 Connector 31
GPIO Connector 32
Front Panel Control Connector 32
Keyboard and Mouse 33
SATA 3.0 Ports 33
SATA 2.0 Connectors 34
USB Connectors 34
Mini-PCIe Slot 35
PCIEX1 to SATA2.0 Connectors 36
PCIe x16 Slot 37
VGA Capture Connector (1-16CH Video Input) 39
VGA Capture Connector (17-32CH Video Input) 40
VGA Capture Connector (17-32CH Audio Input) 41

Chapter 3: System Setup 42

Installing a SATA Hard Drive 42
Removing the Chassis Cover 45

Chapter 4: BIOS Setup 47

About BIOS Setup 47
When to Configure the BIOS 47
Default Configuration 48
Entering Setup 48
Legends 48
BIOS Setup Utility 50

Preface

Copyright

Disclaimer

The information in this document is subject to change without prior notice and does not represent commitment from NEXCOM International Co., Ltd. However, users may update their knowledge of any product in use by con-stantly checking its manual posted on our website: http://www.nexcom.com. NEXCOM shall not be liable for direct, indirect, special, incidental, or consequential damages arising out of the use of any product, nor for any infringements upon the rights of third parties, which may result from such use. Any implied warranties of merchantability or fitness for any particular purpose is also disclaimed.

Acknowledgements

NViS 6210/6220 is a trademark of NEXCOM International Co., Ltd. All other product names mentioned herein are registered trademarks of their respective owners.

Regulatory Compliance Statements

This section provides the FCC compliance statement for Class B devices and describes how to keep the system CE compliant.

Declaration of Conformity

FCC

This equipment has been tested and verified to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equip-ment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area (domestic environment) is likely to cause harmful interfer-ence, in which case the user will be required to correct the interference (take adequate measures) at their own expense.

CE

The product(s) described in this manual complies with all applicable Euro-pean Union (CE) directives if it has a CE marking. For computer systems to remain CE compliant, only CE-compliant parts may be used. Maintaining CE compliance also requires proper cable and cabling techniques.

RoHS Compliance

NEXCOM RoHS Environmental Policy and Status Update

NEXCOM is a global citizen for building the digital infrastructure. We are committed to providing green products and services, which are compliant with European Union RoHS (Restriction on Use of Hazardous Substance in Electronic Equipment) directive 2002/95/EU, to be your trusted green partner and to protect our environment.

RoHS restricts the use of Lead (Pb) < 0.1% or 1,000ppm, Mercury (Hg) < 0.1% or 1,000ppm, Cadmium (Cd) < 0.01% or 100ppm, Hexavalent Chromium (Cr6+) < 0.1% or 1,000ppm, Polybrominated biphenyls (PBB) < 0.1% or 1,000ppm, and Polybrominated diphenyl Ethers (PBDE) < 0.1% or 1,000ppm.

In order to meet the RoHS compliant directives, NEXCOM has established an engineering and manufacturing task force in to implement the introduction of green products. The task force will ensure that we follow the standard NEXCOM development procedure and that all the new RoHS components and new manufacturing processes maintain the highest industry quality levels for which NEXCOM are renowned.

The model selection criteria will be based on market demand. Vendors and suppliers will ensure that all designed components will be RoHS compliant.

How to recognize NEXCOM RoHS Products?

For existing products where there are non-RoHS and RoHS versions, the suffix "(LF)" will be added to the compliant product name.

All new product models launched after January 2006 will be RoHS compliant. They will use the usual NEXCOM naming convention.

Warranty and RMA

NEXCOM Warranty Period

NEXCOM manufactures products that are new or equivalent to new in accordance with industry standard. NEXCOM warrants that products will be free from defect in material and workmanship for 2 years, beginning on the date of invoice by NEXCOM. HCP series products (Blade Server) which are manufactured by NEXCOM are covered by a three year warranty period.

NEXCOM Return Merchandise Authorization (RMA)

- Customers shall enclose the "NEXCOM RMA Service Form" with the returned packages.
- Customers must collect all the information about the problems encountered and note anything abnormal or, print out any on-screen messages, and describe the problems on the "NEXCOM RMA Service Form" for the RMA number apply process.
- Customers can send back the faulty products with or without accessories (manuals, cable, etc.) and any components from the card, such as CPU and RAM. If the components were suspected as part of the problems, please note clearly which components are included. Otherwise, NEXCOM is not responsible for the devices/parts.
- Customers are responsible for the safe packaging of defective products, making sure it is durable enough to be resistant against further damage and deterioration during transportation. In case of damages occurred during transportation, the repair is treated as "Out of Warranty."
- Any products returned by NEXCOM to other locations besides the customers' site will bear an extra charge and will be billed to the customer.

Repair Service Charges for Out-of-Warranty Products

- NEXCOM will charge for out-of-warranty products in two categories, one is basic diagnostic fee and another is component (product) fee.

System Level

- Component fee: NEXCOM will only charge for main components such as SMD chip, BGA chip, etc. Passive components will be repaired for free, ex: resistor, capacitor.
- Items will be replaced with NEXCOM products if the original one cannot be repaired. Ex: motherboard, power supply, etc.
- Replace with 3rd party products if needed.
- If RMA goods can not be repaired, NEXCOM will return it to the customer without any charge.

Board Level

- Component fee: NEXCOM will only charge for main components, such as SMD chip, BGA chip, etc. Passive components will be repaired for free, ex: resistors, capacitors.

- If RMA goods can not be repaired, NEXCOM will return it to the customer without any charge

Warnings

Read and adhere to all warnings, cautions, and notices in this guide and the documentation supplied with the chassis, power supply, and accessory modules. If the instructions for the chassis and power supply are incon¬sistent with these instructions or the instructions for accessory modules, contact the supplier to find out how you can ensure that your computer meets safety and regulatory requirements.

Cautions

Electrostatic discharge (ESD) can damage system components. Do the de-scribed procedures only at an ESD workstation. If no such station is available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the computer chassis.

Safety Information

Before installing and using the device, note the following precautions:

- Read all instructions carefully.
- Do not place the unit on an unstable surface, cart, or stand.
- Follow all warnings and cautions in this manual.
- When replacing parts, ensure that your service technician uses parts specified by the manufacturer.
- Avoid using the system near water, in direct sunlight, or near a heating device.
- The load of the system unit does not solely rely for support from the rackmounts located on the sides. Firm support from the bottom is highly necessary in order to provide balance stability.
- The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

Installation Recommendations

Ensure you have a stable, clean working environment. Dust and dirt can get into components and cause a malfunction. Use containers to keep small components separated.

Adequate lighting and proper tools can prevent you from accidentally damaging the internal components. Most of the procedures that follow require only a few simple tools, including the following:

- A Philips screwdriver
- A flat-tipped screwdriver
- A grounding strap
- An anti-static pad

Using your fingers can disconnect most of the connections. It is

recommended that you do not use needle-nose pliers to disconnect connections as these can damage the soft metal or plastic parts of the connectors.

Safety Precautions

1. Read these safety instructions carefully.

2. Keep this User Manual for later reference.

3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.

4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.

5. Keep this equipment away from humidity.

6. Put this equipment on a stable surface during installation. Dropping it or letting it fall may cause damage.

7. The openings on the enclosure are for air convection to protect the equipment from overheating. DO NOT COVER THE OPENINGS.

8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.

9. Place the power cord in a way so that people will not step on it. Do not place anything on top of the power cord. Use a power cord that has been approved for use with the product and that it matches the voltage and current marked on the product's electrical range label. The voltage and current rating of the cord must be greater than the voltage and current rating marked on the product.

10. All cautions and warnings on the equipment should be noted.

11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.

12. Never pour any liquid into an opening. This may cause fire or electrical shock.

13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.

14. If one of the following situations arises, get the equipment checked by service personnel:

    a. The power cord or plug is damaged.
    b. Liquid has penetrated into the equipment.
    c. The equipment has been exposed to moisture.
    d. The equipment does not work well, or you cannot get it to work according to the user's manual.

e. The equipment has been dropped and damaged.
f. The equipment has obvious signs of breakage.

15. Do not place heavy objects on the equipment.

16. The unit uses a three-wire ground cable which is equipped with a third pin to ground the unit and prevent electric shock. Do not defeat the purpose of this pin. If your outlet does not support this kind of plug, contact your electrician to replace your obsolete outlet.

17. CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISCARD USED BATTER¬IES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

Technical Support and Assistance

1. For the most updated information of NEXCOM products, visit NEXCOM's website at www.nexcom.com.

2. For technical issues that require contacting our technical support team or sales representative, please have the following information ready before calling:
   - Product name and serial number
   - Detailed information of the peripheral devices
   - Detailed information of the installed software (operating system, version, application software, etc.)
   - A complete description of the problem
   - The exact wordings of the error messages

Warning!

1. Handling the unit: carry the unit with both hands and handle it with care.

2. Maintenance: to keep the unit clean, use only approved cleaning products or clean with a dry cloth.

3. CompactFlash: Turn off the unit's power before inserting or removing a CompactFlash storage card.

Conventions Used in this Manual

Warning: Information about certain situations, which if not observed, can cause personal injury. This will prevent injury to yourself when performing a task.

Caution: Information to avoid damaging components or losing data.

Note: Provides additional information to complete a task easily.

Global Service Contact Information

Headquarters
Taiwan
15F, No. 920, Chung-Cheng Rd.,
ZhongHe District, New Taipei City,
23586,
Taiwan, R.O.C.
Tel: +886-2-8226-7786
Fax: +886-2-8226-7782
http://www.nexcom.com.tw

USA
NEXCOM USA
3758 Spinnaker Court Fremont,
CA, 94538, USA
Tel: +1-510-656-2248
Fax: +1-510-656-2158
http://www.nexcom.com

France
NEXCOM France
Z.I. des Amandiers, 17,
Rue des entrepreneurs,
78420 Carrières sur Seine, France
Tel: +33 (0)1 71 51 10 20
Fax: +33 (0)1 71 51 10 21
http://www.nexcom.eu

Germany
NEXCOM GmbH
Leopoldstraße Business Centre,
Leopoldstraße 244, 80807 Munich, Germany
Tel: +49-89-208039-278
Fax: +49-89-208039-279
http://www.nexcom.eu

Italy
NEXCOM ITALIA S.r.l
Via Gaudenzio Ferrari 29,
21047 Saronno (VA), Italia
Tel: +39 02 9628 0333
Fax: +39 02 9619 8846
http://www.nexcom.eu

United Kingdom
NEXCOM EUROPE
10 Vincent Avenue, Crownhill Business Centre,
Milton Keynes, Buckinghamshire MK8 0AB,
United Kingdom
Tel: +44-1908-267121
Fax: +44-1908-262042
http://www.nexcom.eu

China
NEXCOM China
2F, Block 4, Venus Plaza, Building 21,
ZhongGuanCun Software Park, No. 8,
Dongbeiwang West Road, Haidian District,
Beijing, 100193, China
Tel: +86-10-8282-5880
Fax: +86-10-8282-5955
http://www.nexcom.cn

China-Shanghai Office
Room 1505, Greenland He Chuang Building,
No. 450 Caoyang Rd., Shanghai, 200062, China
Tel: +86-21-6150-8008
Fax: +86-21-3251-6358
http://www.nexcom.cn

China-Nanjing Office
Hall C, Block 17, Tian Xing Cui Lang Building,
No. 49 Yunnan North Rd.,
Nanjing, 210018, China
Tel: +86-25-8315-3486
Fax: +86-25-8315-3489
http://www.nexcom.cn

China-Wuhan Office
1-C1804/1805, Mingze Liwan,
No. 519 South Luoshi Rd., Hongshan District,
Wuhan, 430070, China
Tel: +86-27-8722-7400
Fax: +86-27-8722-7400
http://www.nexcom.cn

China-Chengdu Office
9F, Shuxiangxie,Xuefu Garden,
No.12 Section 1, South Yihuan Rd.,
Chengdu, 610061,China
Tel: +86-28-8523-0186
Fax: +86-28-8523-0186
http://www.nexcom.cn

China-Shenzhen Office
Western Room 708, Block 210,
Tairan Industry & Trading Place, Futian Area,
Shenzhen, 518040, China
TEL: +86-755-833 7203
FAX: +86-755-833 7213
http://www.nexcom.cn

Japan

NEXCOM Japan
9F, Tamachi Hara Bldg.,
4-11-5, Shiba Minato-ku
Tokyo, 108-0014, Japan
Tel: +81-3-5419-7830
Fax: +81-3-5419-7832
http://www.nexcom-jp.com

Package Contents

Before continuing, verify that the NViS 6210/6220 package that you received is complete. Your package should have all the items listed in the following table.

Item	Description	Quantity
1	NViS 6210 or NViS 6220 system unit	1
2	US Power Cord	1
3	Decorative Front Panel	1
4	Screw bag	1
5	CPU Fan Kit	1
6	CD containing hardware drivers	1

Ordering Information

The following information below provides ordering information for NViS 6210/6220.

NViS 6210-16 (P/N: 10C0621000X0) RoHS Compliant
2U, 16CH hybrid DVR with Intel® Core™ i3/i5/i7 processors

NViS 6210-32 (P/N: 10C621001X0) RoHS Compliant
2U, 32CH hybrid DVR with Intel® Core™ i3/i5/i7 processors

NViS 6220 (P/N: 10C0622000X0) RoHS Compliant
2U, NVR with Intel® Core™ i3/i5/i7 processors

Chapter 1: Product Introduction

Overview

NViS 6210-16

Key Features

- 2U Rackmount Hybrid DVR with BNC Connectors
- Support Intel® Core™ i3/i5/i7 Desktop Processor
- Video Decoder Chips On-Board
- Up to 16CH 480/400FPS @D1 Display @ Recording
- 8x 3.5" Hot-Swappable HDD Tray
- Dual Local Display by (VGA+DVI), (VGA+HDMI) or (DVI+HDMI)
- 2x Intel Gigabit Ethernet/Support Intel AMT7.0 for remote management
- 1x PCIe X16 Slot
- SDK Support (Windows OS)

Only 1~16 BNC connectors on the top row (highlighted in red) are available for NViS 6210-16.

NViS 6210-32

Key Features

- 2U Rackmount Hybrid DVR with BNC Connectors
- Support Intel® Core™ i3/i5/i7 Desktop Processor
- Video Decoder Chips On-Board
- Up to 32CH 960/800FPS @ D1 Display @ Recording
- 8x 3.5" Hot-Swappable HDD Tray
- Dual Local Display by (VGA+DVI), (VGA+HDMI) or (DVI+HDMI)
- 2x Intel® Gigabit Ethernet/ Support Intel® AMT7.0 for remote management
- 1 x PCIe x16 Slot
- SDK Support (Windows OS)

NViS 6220

Key Features

- 2U Rackmount NVR
- Support Intel® Core™ i3/i5/i7 Desktop Processor
- Up to 128CH 2M @ Recording
- 8x 3.5” Hot-Swappable HDD Tray
- Dual Local Display by (VGA+DVI), (VGA+HDMI) or (DVI+HDMI)
- Dual Intel® Gigabit Ethernet/ Support Intel® AMT7.0 for remote management
- One PCIe x16 Slot

Hardware Specifications

NViS 6210

Main Board
- NEX 882

CPU Support
- Intel® Core™ i7 2600 desktop processor (8M cache 3.4 GHz, LGA 1155)
- Intel® Core™ i5 2400 desktop processor (6M cache 3.1 GHz, LGA 1155)
- Intel® Core™ i3 2120 desktop processor (3M cache 3.3 GHz, LGA 1155)

Main Memory
- 4x 240-pin memory DIMM sockets, up to 16GB DDR3 1066/1333 MHz SDRAM, un-buffered and non-ECC.

Platform Control Hub
- Intel® Q67

Capture Chip
- 8x Techwell 6816 video decoder chip on-board (32CH)
- 4x Techwell 6816 video decoder chip on-board (16CH)

I/O Interface-Front
- Power on/ off switch
- HDD access/power status LEDs
- 2x USB2.0 ports

I/O Interface-Rear
- 2x GbE ports
- 4x USB2.0 ports
- 1x DB15 VGA port
- 1x DVI-D port
- 2x DVI ports for video and audio input
- 1x HDMI port
- 1x speaker-out and 1x Mic-in/Line-in
- 32CH BNC connectors
- 1x RS232/ 1x RS232/422/485 (internal)

Expansions
- 1x PCIe x16 (internal use)
- 1x mini-PCIe (internal use)

Storage
- 8x 3.5" hot-swappable HDD trays

Cooling System
- 2x 80mm fan for system cooling
- 1x copper heatsink with fan for CPU cooling

Power Input
- 600W ATX industrial-grade power supply
- AC 100V to 240V

Dimensions
- 535.2mm(D) x 440.9mm(W) x 88.1mm(H)

Construction
- 2U rackmount, heavy-duty steel chassis

Environment
- Operating temperature:
- Ambient with air flow: 0°C to 45°C
- Storage temperature: -20°C to 70°C
- Relative humidity: 10% to 90% (non-condensing)

Certifications
- CE approval
- FCC Class A

NViS 6220

Main Board
- NEX 882L

CPU Support
- Intel® Core™ i7 2600 desktop processor (8M cache 3.4 GHz, LGA 1155)
- Intel® Core™ i5 2400 desktop processor (6M cache 3.1 GHz, LGA 1155)
- Intel® Core™ i3 2120 desktop processor (3M cache 3.3 GHz, LGA 1155)

Main Memory
- 4x 240-pin memory DIMM sockets, up to 16GB DDR3 1066/1333 MHz SDRAM, un-buffered and non-ECC

Platform Control Hub
- Intel® Q67

I/O Interface-Front
- Power on/ off switch
- HDD access/power status LEDs
- 2x USB2.0 ports

I/O Interface-Rear
- 2x GbE ports
- 4x USB2.0 ports
- 1x DB15 VGA port
- 1x DVI-D port
- 1x RS232/ 1x RS232/422/485 (internal)
- 1x HDMI
- 1x Speaker-out/ 1x Line-in and 1 x Mic-in

Expansions
- 1x PCIe x16 (internal use)
- 1x mini-PCIe (internal use)

Cooling System
- 2x 80mm fan for system cooling
- 1x copper heatsink with fan for CPU cooling

Power Input
- 600W ATX industrial-grade power supply
- AC 100V to 240V

Dimensions
- 535.2mm(D) x 440.9mm(W) x 88.1mm(H)

Construction
- 2U rackmount, heavy-duty steel chassis

Environment

- Operating temperature:
- Ambient with air flow: 0°C to 45°C
- Storage temperature: -20°C to 70°C
- Relative humidity: 10% to 90% (non-condensing)

Certifications

- CE approval
- FCC Class A

Knowing Your NViS 6210

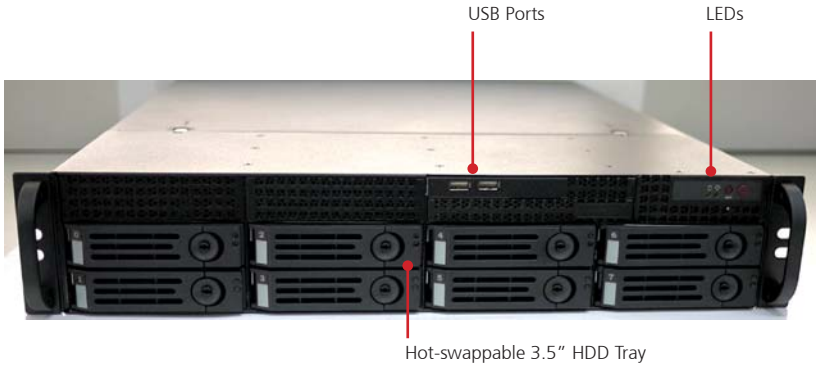
Front view with Panel

HDD Activity
Indicates the hard drives' activity.

Power Status
Indicates the system's power status.

Safety Lock
Key lock to secure the front panel and protect the hard drives.

Front view without Panel



USB Ports

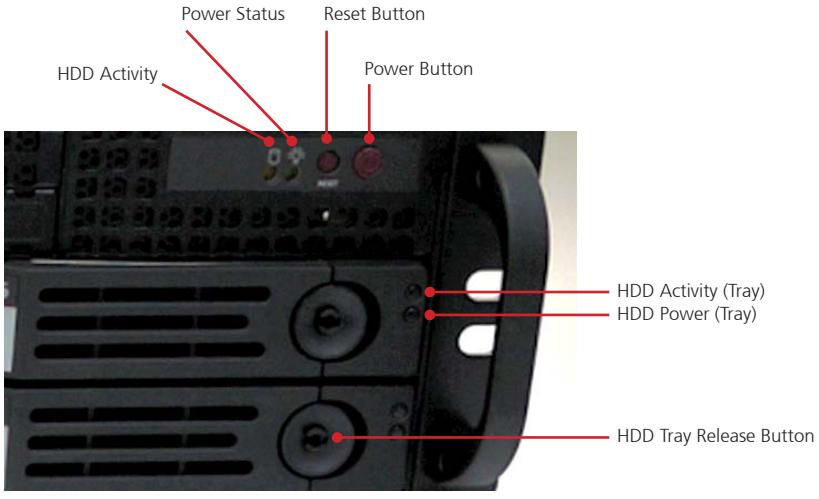
Used to connect USB2.0/1.1 devices.

Hot-swappable 3.5" HDD Tray

Hard drives trays to install hard drives on.

LEDs

Indicate the power status and HDD activity.



HDD Activity

Indicates the hard drives' activity.

Power Status

Indicates the system's power status.

Reset Button

Restarts the system.

Power Button

Turns on or shuts down the system.

HDD Activity (Tray)

LED indicating the hard drive's activity installed on the tray.

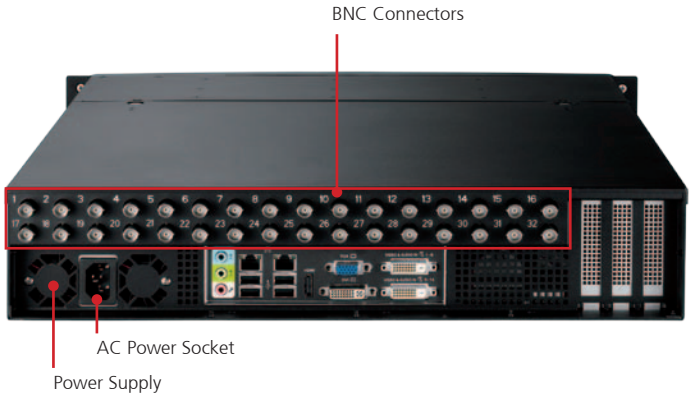
HDD Power (Tray)

LED indicating the hard drive's power status installed on the tray.

HDD Tray Release Button

Grab and pull this button towards right to remove the tray from its slot.

Rear view

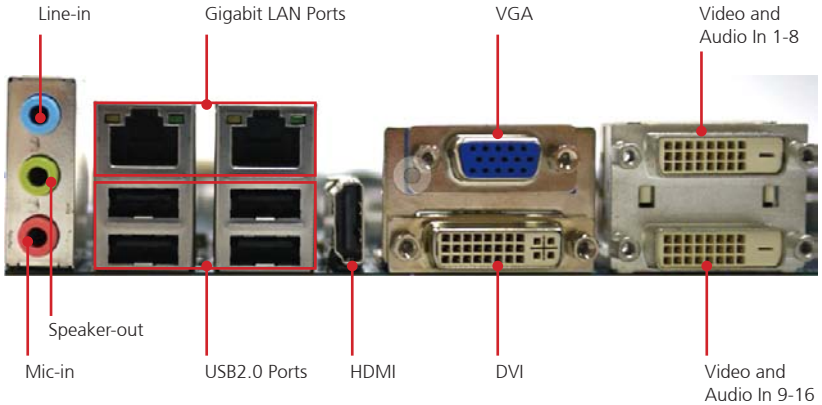


Power Supply
Location of internal power supply and fan.

AC Power Socket
Plug AC power cord here before turning on the system.

BNC Connectors
Used to connect analog cameras.

Rear view in detail



Speaker-out
Speaker-out jack to connect speakers or headphones.

Line-in
Line-in jack for audio input.

Mic-in
Mic-in jack to connect microphones.

Gigabit LAN Ports
Dual Gigabit LAN ports to connect the system to a local area network.

USB2.0 Ports
Four USB2.0 ports to connect the system with USB2.0/1.1 devices.

HDMI
Used to connect a high-definition display.

VGA
Used to connect an analog VGA monitor.

DVI
Used to connect a digital LCD panel.

Video and Audio In 1-8
Video and Audio input for 1-8 channel.

Video and Audio In 9-16
Video and Audio input for 9-16 channel.

Knowing Your NViS 6220

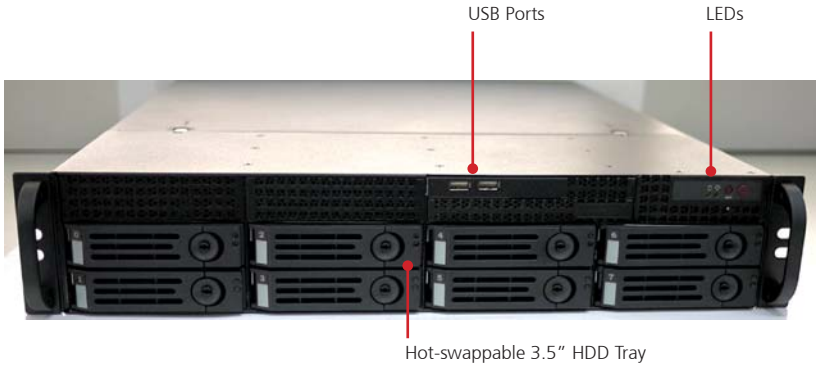
Front view with Panel

HDD Activity
Indicates the hard drives' activity.

Power Status
Indicates the system's power status.

Safety Lock
Key lock to secure the front panel and protect the hard drives.

Front view without Panel



USB Ports

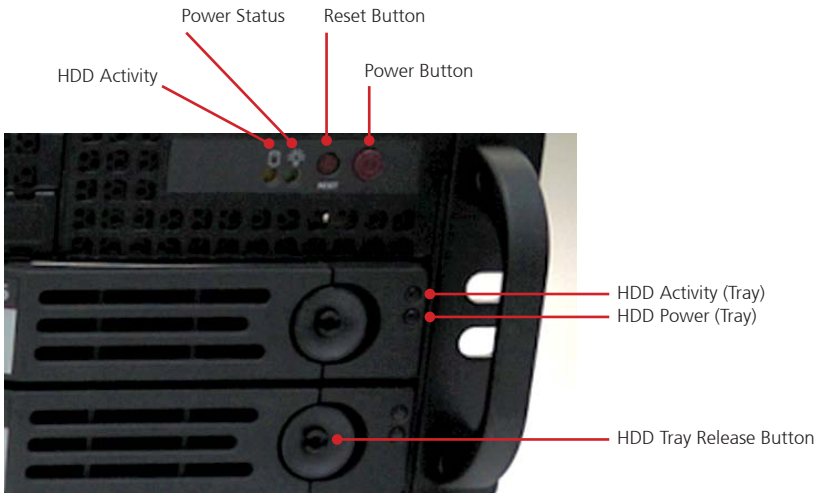
Used to connect USB2.0/1.1 devices.

Hot-swappable 3.5" HDD Tray

Hard drives trays to install hard drives on.

LEDs

Indicate the power status and HDD activity.



HDD Activity

Indicates the hard drives' activity.

Power Status

Indicates the system's power status.

Reset Button

Restarts the system.

HDD Activity (Tray)

LED indicating the hard drive's activity installed on the tray.

HDD Power (Tray)

LED indicating the hard drive's power status installed on the tray.

HDD Tray Release Button

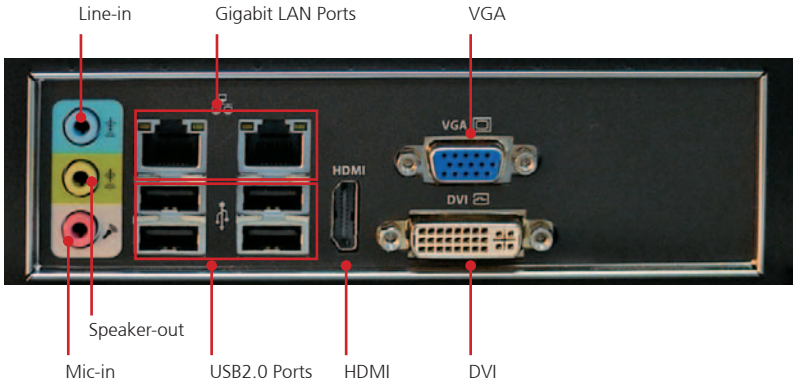
Grab and pull this button towards right to remove the tray from its slot.

Rear view

Power Supply
Location of internal power supply and fan.

AC Power Socket
Plug AC power cord here before turning on the system.

Rear view in detail



Speaker-out
Speaker-out jack to connect speakers or headphones.

Line-in
Line-in jack for audio input.

Mic-in
Mic-in jack to connect microphones.

Gigabit LAN Ports
Dual Ethernet ports to connect the device to a local area network.

USB2.0 Ports
Four USB2.0 ports to connect the system to USB2.0/1.1 devices.

HDMI

Used to connect a high-definition display.

VGA

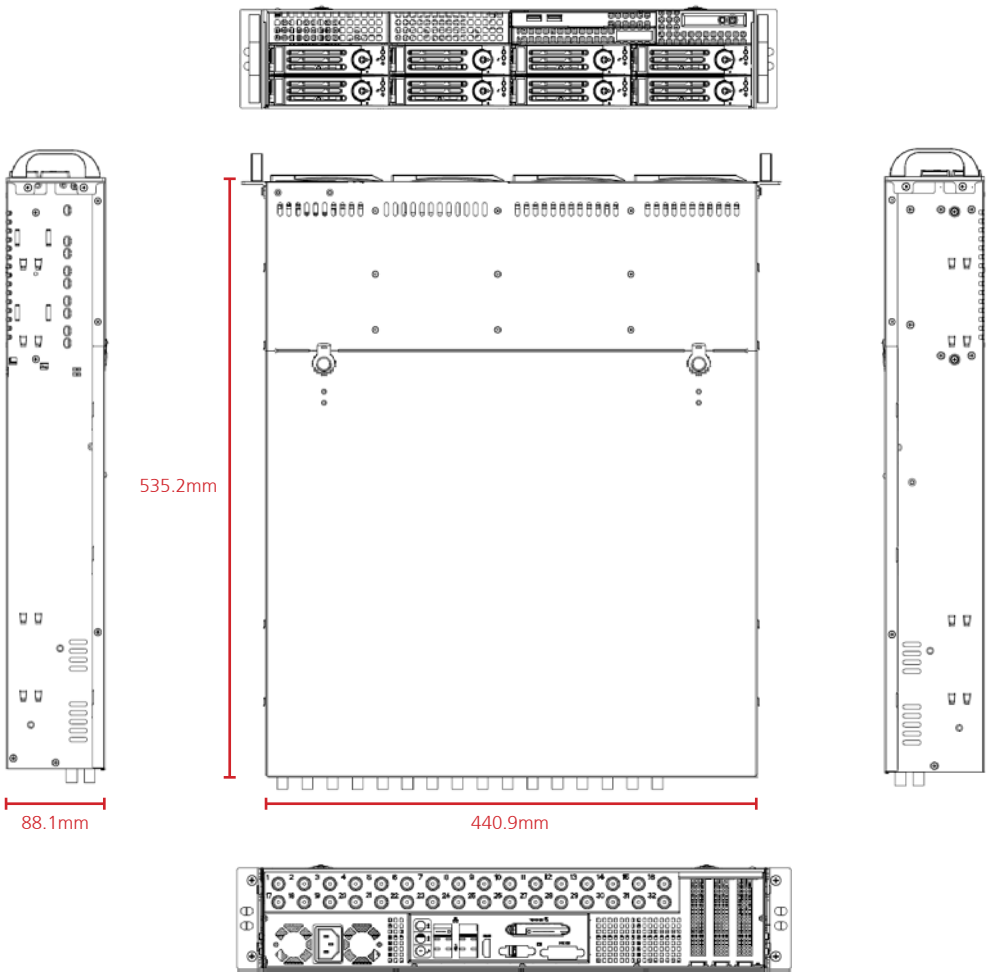
Used to connect an analog VGA monitor.

DVI

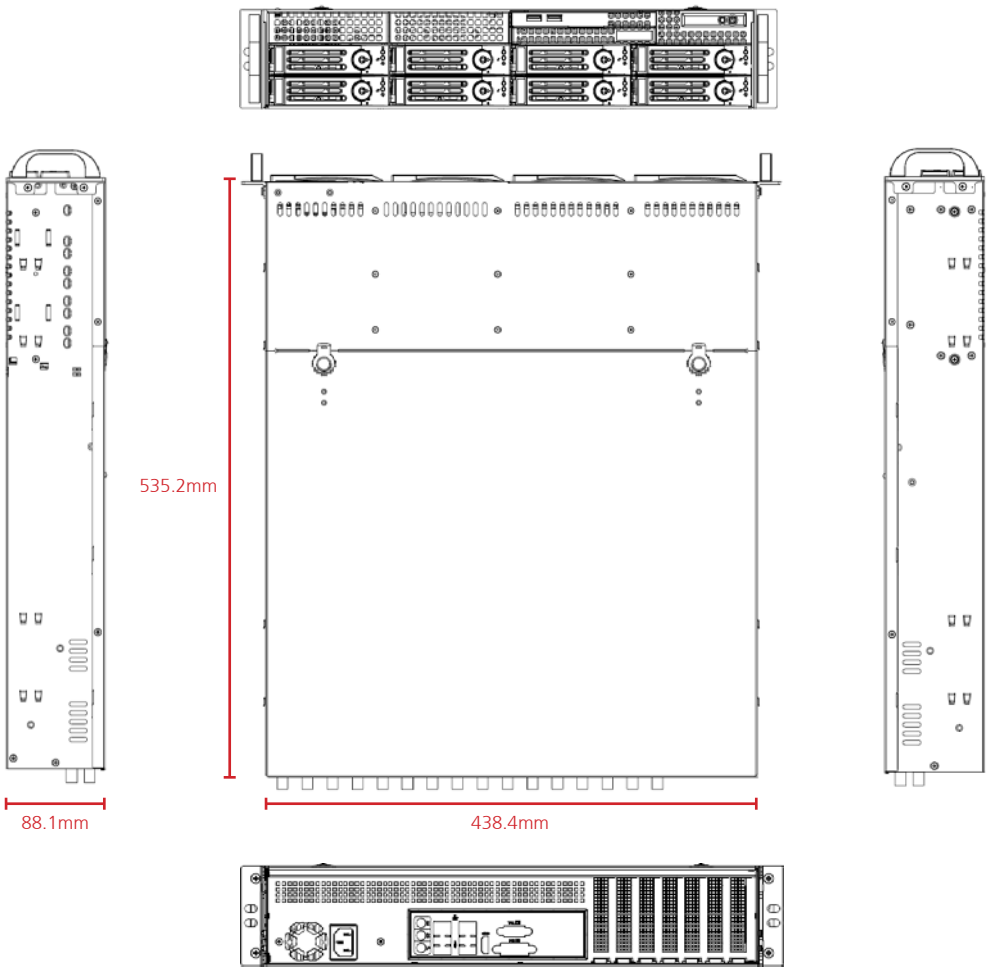
Used to connect a digital LCD panel.

Mechanical Dimensions

NViS 6210



NViS 6220



Chapter 2: Jumpers and Connectors

This chapter describes how to set the jumpers and connectors on the NViS 6210/6220 motherboard.

Before You Begin

- Ensure you have a stable, clean working environment. Dust and dirt can get into components and cause a malfunction. Use containers to keep small components separated.
- Adequate lighting and proper tools can prevent you from accidentally damaging the internal components. Most of the procedures that follow require only a few simple tools, including the following:
  - A Philips screwdriver
  - A flat-tipped screwdriver
  - A set of jewelers screwdrivers
  - A grounding strap
  - An anti-static pad
- Using your fingers can disconnect most of the connections. It is recommended that you do not use needle-nosed pliers to disconnect connections as these can damage the soft metal or plastic parts of the connectors.
- Before working on internal components, make sure that the power is off. Ground yourself before touching any internal components, by touching a metal object. Static electricity can damage many of the electronic components. Humid environment tend to have less static electricity than dry environments. A grounding strap is warranted whenever danger of static electricity exists.

Precautions

Computer components and electronic circuit boards can be damaged by discharges of static electricity. Working on computers that are still connected to a power supply can be extremely dangerous.
Follow the guidelines below to avoid damage to your computer or yourself:

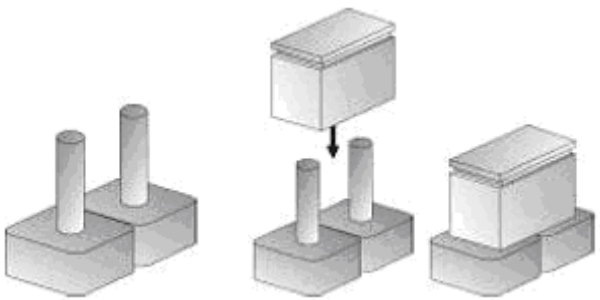
- Always disconnect the unit from the power outlet whenever you are working inside the case.
- If possible, wear a grounded wrist strap when you are working inside the computer case. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal body of any other grounded appliance.
- Hold electronic circuit boards by the edges only. Do not touch the components on the board unless it is necessary to do so. Don't flex or stress the circuit board.
- Leave all components inside the static-proof packaging that they shipped with until they are ready for installation.
- Use correct screws and do not over tighten screws.

Jumper Settings

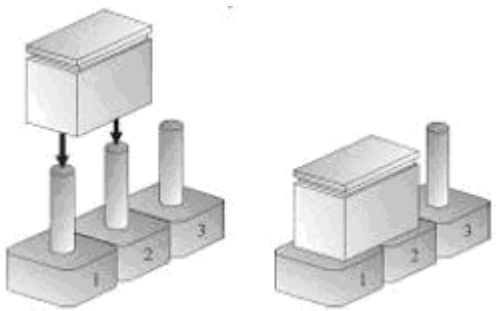
A jumper is the simplest kind of electric switch. It consists of two metal pins and a cap. When setting the jumpers, ensure that the jumper caps are placed on the correct pins. When the jumper cap is placed on both pins, the jumper is short. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is open.

Refer to the illustrations below for examples of what the 2-pin and 3-pin jumpers look like when they are short (on) and open (off).

Two-Pin Jumpers: Open (Left) and Short (Right)

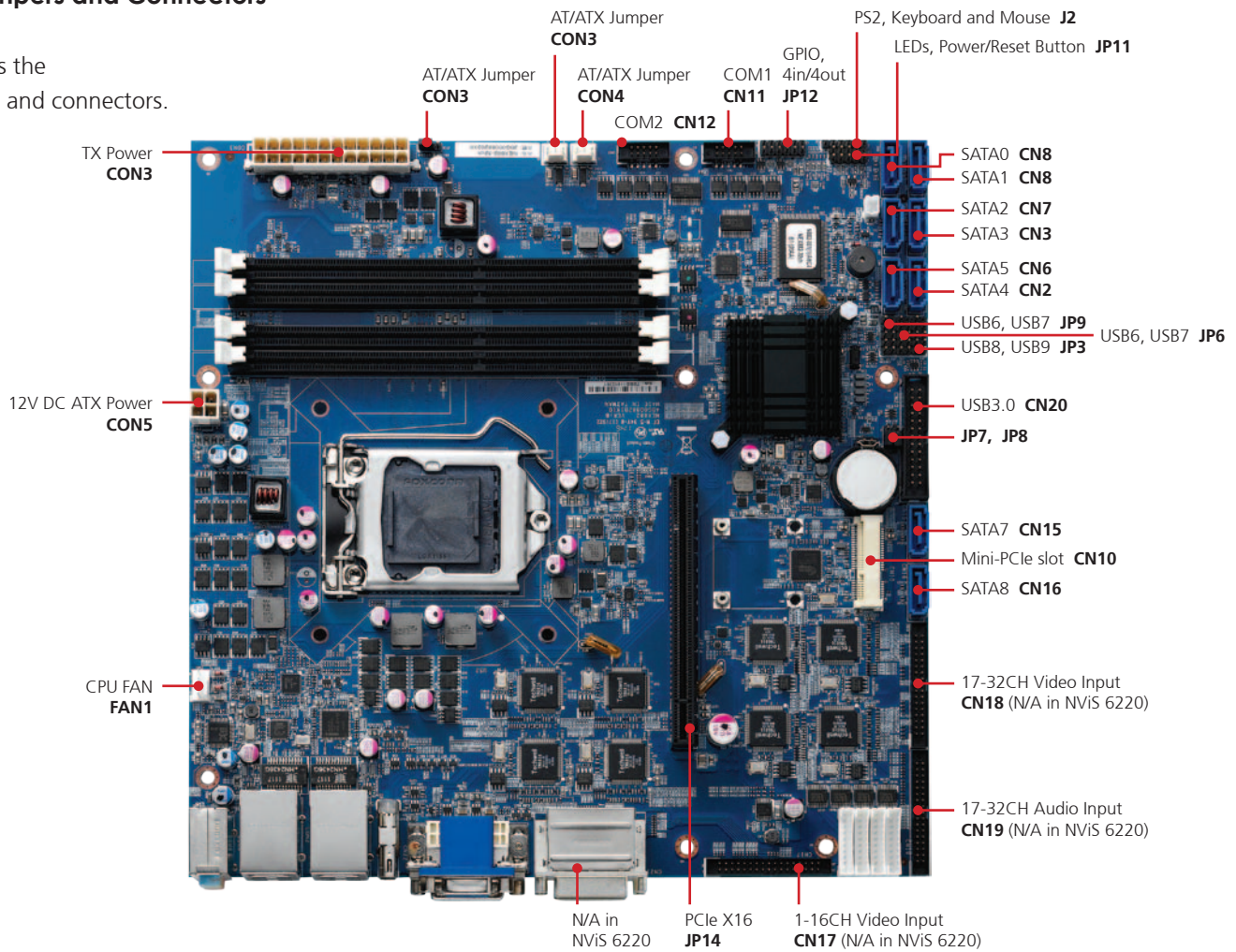


Three-Pin Jumpers: Pins 1 and 2 Are Short



Locations of the Jumpers and Connectors

The figure below shows the location of the jumpers and connectors.



Jumpers

CMOS Clear Select

Connector type: 1x3 3-pin header

Connector location: JP7

Pin	Settings
1-2 On	Normal
2-3 On	Clear BIOS

1-2 On: default

ME Clear Select

Connector type: 1x3 3-pin header

Connector location: JP8

Pin	Settings
1-2 On	Normal
2-3 On	Clear ME

1-2 On: default

Power Mode Select

Connector type: 1x3 3-pin header

Connector location: JP18

Pin	Settings
1-2 On	ATX
2-3 On	AT

1-2 On: default

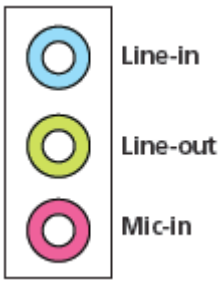
Connector Pin Definitions

External I/O Interfaces

Audio Jacks

Connector type: 1x3 Ear Phone jack

Connector location: CN14



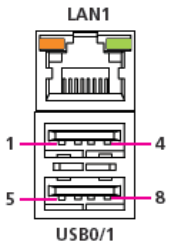
Pin	Definition	Pin	Definition
1	Chassis_GND1	2	MIC_L_CR_IN
3	MIC_JD	4	AGND
5	MIC_R_CR_IN		
22	FRONT_OUT_LC	24	AGND
23	FRONT_JD		
25	FRONT_OUT_RC		
32	LINEIN_L_CR_IN	34	AGND
33	LINEIN_JD		
35	LINEIN_R_CR_IN		
MH1	Chassis_GND1	MH2	Chassis_GND1
MH3	Chassis_GND1	MH4	Chassis_GND1

LAN1 and USB0/1 Ports

Connector type: RJ45 port with LEDs (LAN1)

Dual USB port, Type A (USB0/1)

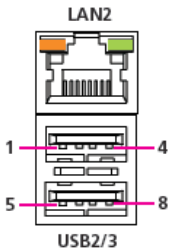
Connector location: CON4



Pin	Definition	Pin	Definition
1	P5V_USB	2	USBN
3	USBP	4	GND
5	P5V_USB	6	USBN
7	USBP	8	GND
9	LANTXDP0	10	LANTXDN0
11	LANTXDP1	12	LANTXDN1
13	LANTXDP2	14	LANTXDN2
15	LANTXDP3	16	LANTXDN3
17	LAN_LED1P	18	LAN_LED_LNK#_ACT
19	LAN_LINK	20	LANLINKMIX
21	Chassis_GND1	22	Chassis_GND1
23	Chassis_GND1	24	Chassis_GND1
25	Chassis_GND1	26	Chassis_GND1
27	Chassis_GND1	28	Chassis_GND1

LAN2 and USB2/3 Ports

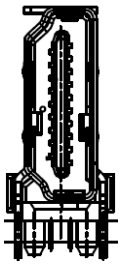
Connector type: RJ45 port with LEDs (LAN2)
Dual USB port, Type A (USB2/3)
Connector location: CON2



Pin	Definition	Pin	Definition
1	P5V_USB	2	USBN
3	USBP	4	GND
5	P5V_USB	6	USBN
7	USBP	8	GND
9	LANTXDP0	10	LANTXDN0
11	LANTXDP1	12	LANTXDN1
13	LANTXDP2	14	LANTXDN2
15	LANTXDP3	16	LANTXDN3
17	LAN_LED1P	18	LAN_LED_LNK#_ACT
19	LAN_LINK	20	LANLINKMIX
21	Chassis_GND1	22	Chassis_GND1
23	Chassis_GND1	24	Chassis_GND1
25	Chassis_GND1	26	Chassis_GND1
27	Chassis_GND1	28	Chassis_GND1

HDMI

Connector type: HDMI port
Connector location: J5



Pin	Definition	Pin	Definition
1	HDMI_DATA2_P	2	GND
3	HDMI_DATA2_N	4	HDMI_DATA1_P
5	GND	6	HDMI_DATA1_N
7	HDMI_DATA0_P	8	GND
9	HDMI_DATA0_N	10	HDMI_CLK_P
11	GND	12	HDMI_CLK_N
13	NC	14	NC
15	HDMI_CTRL_CLK	16	HDMI_CTRL_DATA
17	GND	18	HDMI_VCC5
19	HDMI_HPD_R	MH1	Chassis_GND1
MH2	Chassis_GND1	MH3	Chassis_GND1
MH4	Chassis_GND1		

VGA and DVI-D Ports

Connector type: DB-15 port, 15-pin D-Sub (VGA)

24-pin D-Sub, 2.0mm-M-180 (DVI)

Connector location: CN22

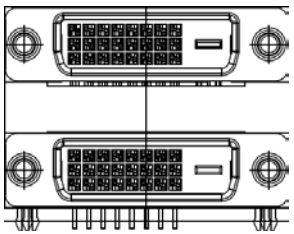
Pin	Definition	Pin	Definition
1	DVI_DATA2_N	2	DVI_DATA2_P
3	GND	4	NC
5	NC	6	DVI_CTRL_CLK
7	DVI_CTRL_DATA	8	NC
9	DVI_DATA1_N	10	DVI_DATA1_P
11	GND	12	NC
13	NC	14	DVI_PWR_S_VCC5
15	GND	16	DVI_HPDET
17	DVI_DATA0_N	18	DVI_DATA0_P
19	GND	20	NC
21	NC	22	NC
23	DVI_CLK_P	24	DVI_CLK_N

C1	NC	C2	NC
C3	NC	C4	NC
C5A	GND	C5B	GND
MH1	Chassis_GND2	MH2	Chassis_GND2
25	RED_VGA	26	GREEN_VGA
27	BLUE_VGA	28	GND
29	GND	30	GND
31	GND	32	GND
33	GND	34	GND
35	GND	36	DDC_DATA_VGA
37	HSYNC_VGA	38	VSYNC_VGA
39	DDC_CLK_VGA		
MH3	Chassis_GND2	MH4	Chassis_GND2

Video and Audio In Ports

Connector type: Dual stack DVI port

Connector location: CN21



Pin	Definition	Pin	Definition
1	A_C1_ VIDEO	2	A_C2_ VIDEO
3	A_C3_ VIDEO	4	A_C4_ VIDEO
5	A_C5_ VIDEO	6	A_C6_ VIDEO
7	A_C7_ VIDEO	8	A_C8_ VIDEO
9	GND	10	GND
11	GND	12	GND
13	GND	14	GND
15	GND	16	GND
17	A_C1_AUDIO	18	A_C2_AUDIO
19	A_C3_AUDIO	20	A_C4_AUDIO
21	A_C5_AUDIO	22	A_C6_AUDIO
23	A_C7_AUDIO	24	A_C8_AUDIO
MH1	GND	MH2	GND

1	B_C1_ VIDEO	2	B_C2_ VIDEO
3	B_C3_ VIDEO	4	B_C4_ VIDEO
5	B_C5_ VIDEO	6	B_C6_ VIDEO
7	B_C7_ VIDEO	8	B_C8_ VIDEO
9	GND	10	GND
11	GND	12	GND
13	GND	14	GND
15	GND	16	GND
17	B_C1_AUDIO	18	B_C2_AUDIO
19	B_C3_AUDIO	20	B_C4_AUDIO
21	B_C5_AUDIO	22	B_C6_AUDIO
23	B_C7_AUDIO	24	B_C8_AUDIO
MH1	GND	MH2	GND

Internal Connectors

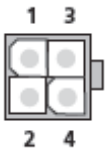
CPU Fan Connector

Connector type: 1x4, 4-pin Wafer, 2.54mm pitch
Connector location: FAN1

Pin	Definition
1	GND
2	ATX 12V
3	FAN_TAC1
4	FAN_CTL1

ATX Power Output Connector

Connector type: 2x2 Aux power connector
Connector location: CON5

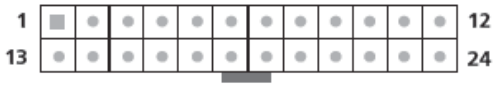


Pin	Definition
1	GND
2	GND
3	ATX 12V
4	ATX 12V

ATX Power Connector

Connector type: 2x12 24-pin header connector

Connector location: CON3

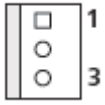


Pin	Definition	Pin	Definition
1	VCC3	2	VCC3
3	GND	4	VCC5
5	GND	6	VCC5
7	GND	8	ATXPWROK
9	5VSB	10	VCC12
11	VCC12	12	VCC3
13	VCC3	14	-12V
15	GND	16	ATX_PS_ON_N
17	GND	18	GND
19	GND	20	NA
21	VCC5	22	VCC5
23	VCC5	24	GND

System Fan Connectors

Connector size: 1x3, 3-pin Wafer, 2.54mm pitch

Connector location: J3, J4

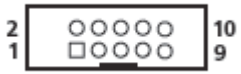


Pin	Definition
1	GND
2	+12V
3	SENSE

COM1 Connector

Connector type: 2x5 10-pin boxed header, 2.0mm pitch

Connector location: CN11

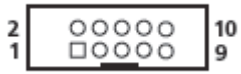


Pin	Definition	Pin	Definition
1	DCD/RS422_TX-/RS485_-	2	RXD/RS422_TX+/RS485_+
3	TXD/RS422_RX+	4	DTR/RS422_RX-
5	GND	6	DSR/RS422_RTS-
7	RTS/RS422_RTS+	8	CTS/RS422_CTS+
9	RI/RS422_CTS-	10	RXD/RS422_TX+/RS485_+

COM2 Connector

Connector type: 2x5 10-pin boxed header, 2.0mm pitch

Connector location: CN12

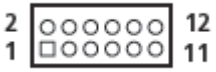


Pin	Definition	Pin	Definition
1	DCD/RS422_TX-/RS485_-	2	RXD/RS422_TX+/RS485_+
3	TXD/RS422_RX+	4	DTR/RS422_RX-
5	GND	6	DSR/RS422_RTS-
7	RTS/RS422_RTS+	8	CTS/RS422_CTS+
9	RI/RS422_CTS-	10	RXD/RS422_TX+/RS485_+

GPIO Connector

Connector type: 2x6 12-pin header, 2.5mm pitch

Connector location: JP12

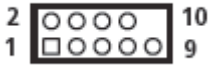


Pin	Definition	Pin	Definition
1	SIO_GPI_80	2	SIO_GPI_81
3	SIO_GPI_82	4	SIO_GPI_83
5	SIO_GPO_84	6	SIO_GPO_85
7	SIO_GPO_86	8	SIO_GPO_87
9	+3.3V	10	+3.3V
11	GND	12	GND

Front Panel Control Connector

Connector type: 2x5 10-pin header, 2.54mm pitch

Connector location: JP11



Pin	Definition	Pin	Definition
1	SATA_LED_P	2	PWR_LED_P
3	SATA_LED_N	4	GND
5	GND	6	BTN_A#
7	RST_BTN_N	8	GND
9	NC		

Keyboard and Mouse

Connector type: 1x6 6-pin header, 2.54mm pitch

Connector location: J2

Pin	Definition	Pin	Definition
1	+5V	4	Keyboard Data
2	Mouse Clock	5	Keyboard Clock
3	Mouse Data	6	GND

SATA 3.0 Ports

Connector type: Standard Serial ATAII 7P (1.27mm, SATA-M-180)

Connector location: CN8 (SATA0), CN1 (SATA1)

Pin	Definition
1	GND
2	SATA_TX_P
3	SATA_TX_N
4	GND
5	SATA_RX_P
6	SATA_RX_N
7	GND

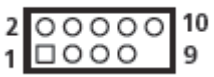
SATA 2.0 Connectors

Connector type: Standard Serial ATAII 7P (1.27mm, SATA-M-180)
Connector location: CN7 (SATA2), CN3 (SATA3), CN2 (SATA4), CN6 (SATA5)

Pin	Definition
1	GND
2	SATA_TX_P
3	SATA_TX_N
4	GND
5	SATA_RX_P
6	SATA_RX_N
7	GND

USB Connectors

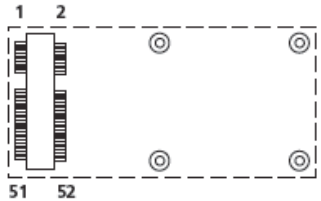
Connector type: 2x5 10-pin header, 2.54mm pitch
Connector location: JP6 (USB6, USB7), JP3 (USB8, USB9), JP9 (USB4, USB5)



Pin	Definition	Pin	Definition
1	5VDUAL	2	5VDUAL
3	DATA0_N	4	DATA1_N
5	DATA0_P	6	DATA1_P
7	GND	8	GND
9		10	NC

Mini-PCIe Slot

Connector location: CN10



Pin	Definition	Pin	Definition
1	WAKE_N	2	3VSB_MINI1
3	NC	4	GND
5	NC	6	P1V5_MINI1
7	MINICARD1CLKREQ#	8	GND
9	GND	10	GND
11	CK_PE_100M_Mini_DN	12	GND
13	CK_PE_100M_Mini_DP	14	GND
15	GND	16	GND
17	NC	18	GND
19	NC	20	MINICARD1DIS#
21	GND	22	PLTRST_PCIE1_N
23	PCIE_RXN7_MINI	24	3VSB_MINI1
25	PCIE_RXP7_MINI	26	GND
27	GND	28	P1V5_MINI1
29	GND	30	SMB_CLK_MAIN
31	PCIE_TXN7_MINI	32	SMB_DATA_MAIN
33	PCIE_TXP7_MINI	34	GND
35	GND	36	USB_10N
37	GND	38	USB_10P
39	3VSB_MINI1	40	GND
41	3VSB_MINI1	42	NC
43	GND	44	NC
45	NC	46	NC
47	NC	48	P1V5_MINI1
49	NC	50	GND
51	NC	52	3VSB_MINI1
MH1	GND	MH2	GND
MH3	GND	MH4	GND
MH5	GND	MH6	GND

PCIe x1 to SATA2.0 Connectors

Connector type: Standard Serial ATAII 7P (1.27mm, SATA-M-180)

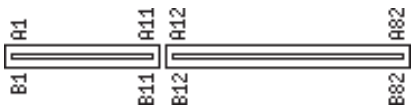
Connector location: CN15 (SATA7), CN16 (SATA8)

Pin	Definition
1	GND
2	SATA_TX_P
3	SATA_TX_N
4	GND
5	SATA_RX_P
6	SATA_RX_N
7	GND

PCIe x16 Slot

Connector type: PCIe x16

Connector location: JP14



Pin	Description (Side B)	Description (Side A)
1	+12 volt power	GND
2	+12 volt power	+12 volt power
3	+12 volt power	+12 volt power
4	Ground	Ground
5	SMBus clock	PEG_TCK
6	SMBus data	PEG_TDI
7	Ground	NC
8	+3.3 volt power	PEG_TMS
9	NC	3.3v volt power
10	3.3VSB	3.3v volt power
11	WAKE#	PE_RESEET#
12	Reserved	Ground
13	Ground	REFCLK_P
14	TXP0	REFCLK_N
15	TXN0	Ground
16	Ground	RXP0
17	PRSNT2#	RXN0
18	Ground	Ground
19	TXP1	NC
20	TXN1	Ground
21	Ground	RXP1
22	Ground	RXN1
23	TXP2	Ground
24	TXN2	Ground
25	Ground	RXP2
26	Ground	RXN2
27	TXP3	Ground
28	TXN3	Ground
29	Ground	RXP3
30	Reserved	RXN3
31	PRSNT2#	Ground
32	Ground	NC
33	TXP4	NC
34	TXN4	Ground
35	Ground	RXP4
36	Ground	RXN4
37	TXP5	Ground
38	TXN5	Ground
39	Ground	RXP5

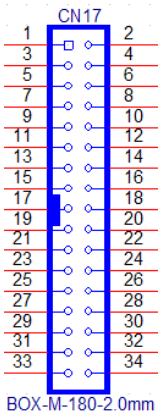
40	Ground	RXN5
41	TXP6	Ground
42	TXN6	Ground
43	Ground	RXP6
44	Ground	RXN6
45	TXP7	Ground
46	TXN7	Ground
47	Ground	RXP7
48	PRSNT2#	RXN7
49	Ground	Ground
50	TXP8	NC
51	TXN8	Ground
52	Ground	RXP8
53	Ground	RXN8
54	TXP9	Ground
55	TXN9	Ground
56	Ground	RXP9
57	Ground	RXN9
58	TXP10	Ground
59	TXN10	Ground
60	Ground	RXP10
61	Ground	RXN10

62	TXP11	Ground
63	TXN11	Ground
64	Ground	RXP11
65	Ground	RXN11
66	TXP12	Ground
67	TXN12	Ground
68	Ground	RXP12
69	Ground	RXN12
70	TXP13	Ground
71	TXN13	Ground
72	Ground	RXP13
73	Ground	RXN13
74	TXP14	Ground
75	TXN14	Ground
76	Ground	RXP14
77	Ground	RXN14
78	TXP15	Ground
79	TXN15	Ground
80	Ground	RXP15
81	PRSNT2#	RXN15
82	NC	Ground

VGA Capture Connector (1-16CH Video Input)

Connector type: 2x17 34-pin header, 2.0mm pitch

Connector location: CN17



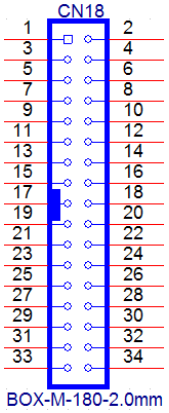
Pin	Definition	Pin	Definition
1	A_C1_VIDEO	2	GND
3	A_C2_VIDEO	4	GND
5	A_C3_VIDEO	6	GND
7	A_C4_VIDEO	8	GND
9	A_C5_VIDEO	10	GND
11	A_C6_VIDEO	12	GND
13	A_C7_VIDEO	14	GND
15	A_C8_VIDEO	16	GND

17	B_C1_VIDEO	18	GND
19	B_C2_VIDEO	20	GND
21	B_C3_VIDEO	22	GND
23	B_C4_VIDEO	24	GND
25	B_C5_VIDEO	26	GND
27	B_C6_VIDEO	28	GND
29	B_C7_VIDEO	30	GND
31	B_C8_VIDEO	32	GND
33	GND	34	GND

VGA Capture Connector (17-32CH Video Input)

Connector type: 2x17 34-pin header, 2.0mm pitch

Connector location: CN18

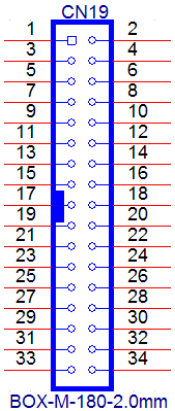


Pin	Definition	Pin	Definition
1	C_C1_VIDEO	2	GND
3	C_C2_VIDEO	4	GND
5	C_C3_VIDEO	6	GND
7	C_C4_VIDEO	8	GND
9	C_C5_VIDEO	10	GND
11	C_C6_VIDEO	12	GND
13	C_C7_VIDEO	14	GND
15	C_C8_VIDEO	16	GND
17	D_C1_VIDEO	18	GND
19	D_C2_VIDEO	20	GND
21	D_C3_VIDEO	22	GND
23	D_C4_VIDEO	24	GND
25	D_C5_VIDEO	26	GND
27	D_C6_VIDEO	28	GND
29	D_C7_VIDEO	30	GND
31	D_C8_VIDEO	32	GND
33	GND	34	GND

VGA Capture Connector (17-32CH Audio Input)

Connector type: 2x17 34-pin header, 2.0mm pitch

Connector location: CN19



Pin	Definition	Pin	Definition
1	C_C1_AUDIO	2	GND
3	C_C2_AUDIO	4	GND
5	C_C3_AUDIO	6	GND
7	C_C4_AUDIO	8	GND
9	C_C5_AUDIO	10	GND
11	C_C6_AUDIO	12	GND
13	C_C7_AUDIO	14	GND
15	C_C8_AUDIO	16	GND
17	D_C1_AUDIO	18	GND
19	D_C2_AUDIO	20	GND
21	D_C3_AUDIO	22	GND
23	D_C4_AUDIO	24	GND
25	D_C5_AUDIO	26	GND
27	D_C6_AUDIO	28	GND
29	D_C7_AUDIO	30	GND
31	D_C8_AUDIO	32	GND
33	GND	34	GND

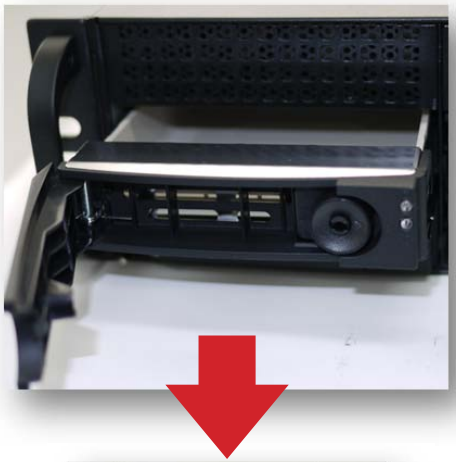
Chapter 3: System Setup

Installing a SATA Hard Drive

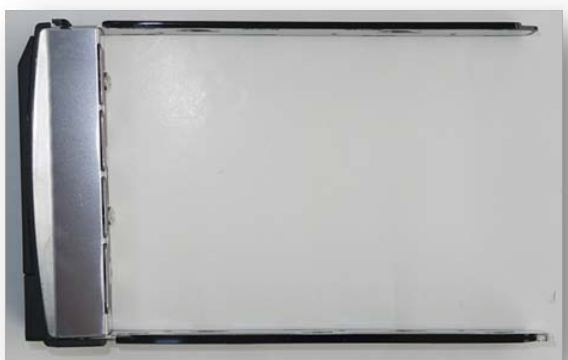
1. Press down and hold the push button to remove the front panel.

2. Pull the eject button towards right to release the latch.

3. Grab the latch and pull it gently to remove the HDD tray.

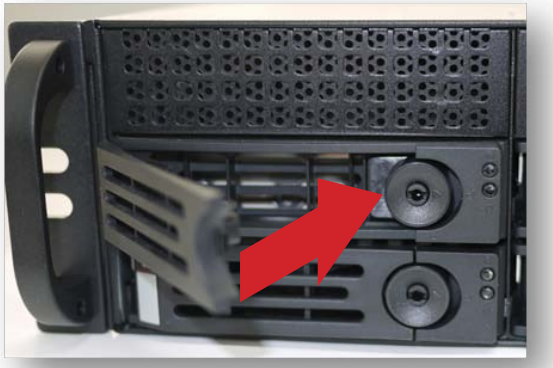


4. Loosen the screws on both sides of the tray and remove the dummy tray.



5. Place the SATA hard drive into the tray, and tighten the screws on both sides to secure the hard drive.

6. Insert the hard drive tray back to the empty slot, and push the latch gently until a click sound is heard to secure the tray.

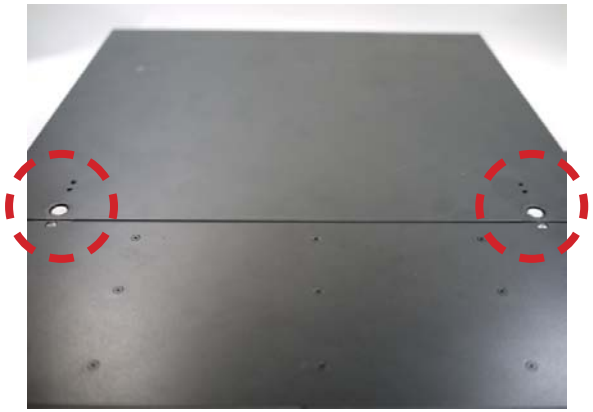


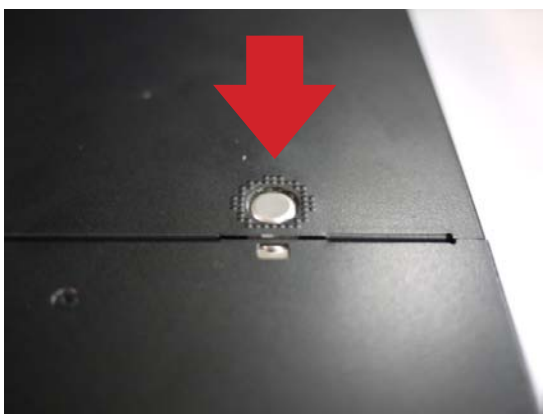
Removing the Chassis Cover

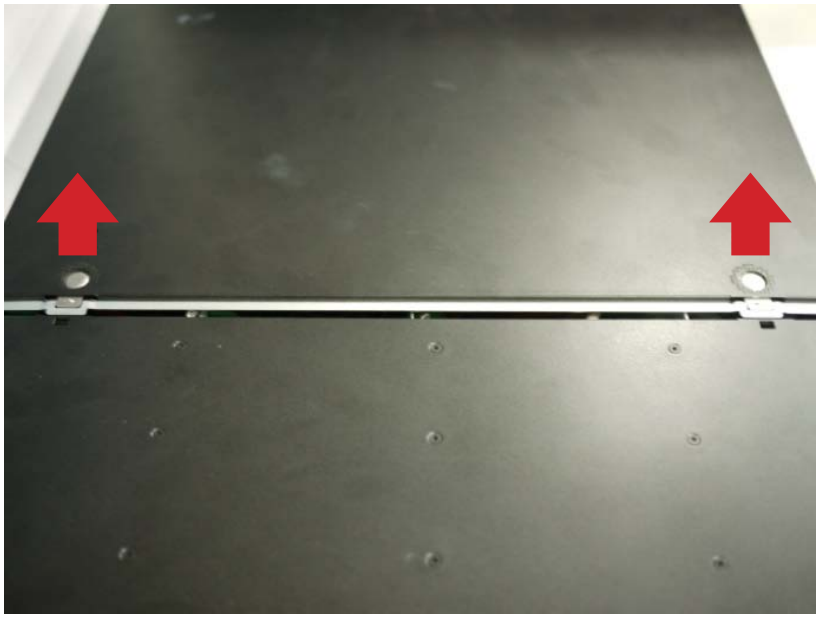
Caution: Prior to removing the chassis cover, make sure the unit's power is off and disconnected from the power source to prevent electric shock or system damage.

1. Loosen the screws on both sides of the chassis cover

2. Press and hold down the two silver buttons and push the cover forward to slide it off.







Chapter 4: BIOS Setup

This chapter describes how to use the BIOS setup program for the NViS 6210/6220. The BIOS screens provided in this chapter are for reference only and may change if the BIOS is updated in the future.

To check for the latest updates and revisions, visit the NEXCOM Web site at www.nexcom.com.tw.

About BIOS Setup

The BIOS (Basic Input and Output System) Setup program is a menu driven utility that enables you to make changes to the system configuration and tailor your system to suit your individual work needs. It is a ROM-based configuration utility that displays the system's configuration status and provides you with a tool to set system parameters.

These parameters are stored in non-volatile battery-backed-up CMOS RAM that saves this information even when the power is turned off. When the system is turned back on, the system is configured with the values found in CMOS.

With easy-to-use pull down menus, you can configure such items as:
- Hard drives, diskette drives, and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power management features

The settings made in the setup program affect how the computer performs. It is important, therefore, first to try to understand all the Setup options, and second, to make settings appropriate for the way you use the computer.

When to Configure the BIOS

This program should be executed under the following conditions:
- When changing the system configuration
- When a configuration error is detected by the system and you are prompted to make changes to the Setup program
- When resetting the system clock
- When redefining the communication ports to prevent any conflicts
- When making changes to the Power Management configuration
- When changing the password or making other changes to the security setup

Normally, CMOS setup is needed when the system hardware is not consistent with the information contained in the CMOS RAM, whenever the CMOS RAM has lost power, or the system features need to be changed.

Default Configuration

Most of the configuration settings are either predefined according to the Load Optimal Defaults settings which are stored in the BIOS or are automatically detected and configured without requiring any actions. There are a few settings that you may need to change depending on your system configuration.

Entering Setup

When the system is powered on, the BIOS will enter the Power-On Self Test (POST) routines. These routines perform various diagnostic checks; if an error is encountered, the error will be reported in one of two different ways:

- If the error occurs before the display device is initialized, a series of beeps will be transmitted.
- If the error occurs after the display device is initialized, the screen will display the error message.

Powering on the computer and immediately pressing <Del> allows you to enter Setup. Another way to enter Setup is to power on the computer and wait for the following message during the POST:

TO ENTER SETUP BEFORE BOOT PRESS <CTRL-ALT-ESC>
Press the <Del> key to enter Setup:

Legends

Key	Function
Right and Left arrows	Moves the highlight left or right to select a menu.
Up and Down arrows	Moves the highlight up or down between submenus or fields.
<Esc>	Exits the BIOS Setup Utility.
+ (plus key)	Scrolls forward through the values or options of the highlighted field.
- (minus key)	Scrolls backward through the values or options of the highlighted field.
Tab	Selects a field.
<F1>	Displays General Help.
<F2>	Load previous values
<F3>	Load optimized default values.
<F4>	Saves and exits the Setup program.
<Enter>	Press <Enter> to enter the highlighted submenu

Scroll Bar

When a scroll bar appears to the right of the setup screen, it indicates that there are more available fields not shown on the screen. Use the up and down arrow keys to scroll through all the available fields.

Submenu

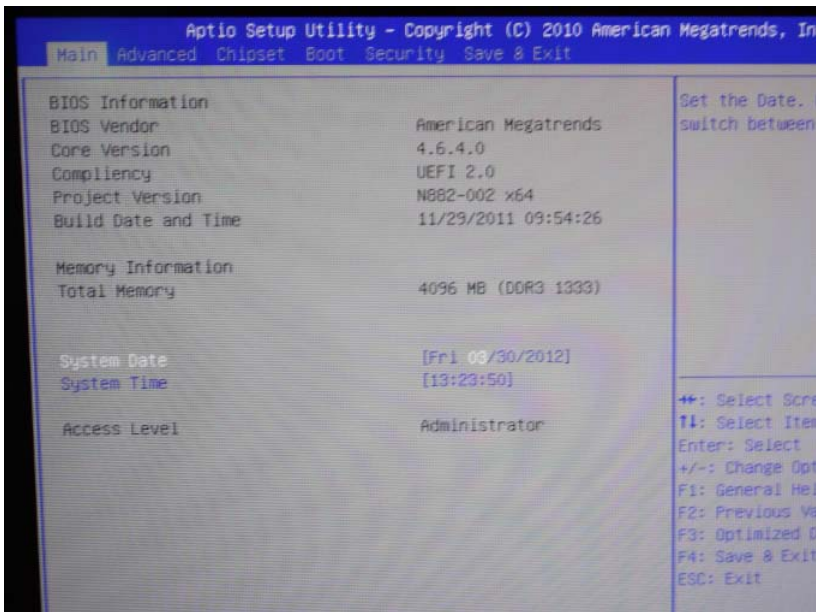
When "▶" appears on the left of a particular field, it indicates that a submenu which contains additional options are available for that field. To display the submenu, move the highlight to that field and press <Enter>.

BIOS Setup Utility

Once you enter the AMI BIOS Setup Utility, the Main Menu will appear on the screen. The main menu allows you to select from several setup functions and one exit. Use arrow keys to select among the items and press <Enter> to accept or enter the submenu.

Main

The Main menu is the first screen that you will see when you enter the BIOS Setup Utility.



BIOS Information

Displays the detected BIOS information.

Memory Information

Displays the detected system memory information.

System Date

The date format is <day>, <month>, <date>, <year>. Day displays a day, from Sunday to Saturday. Month displays the month, from January to December. Date displays the date, from 1 to 31. Year displays the year, from 1999 to 2099.

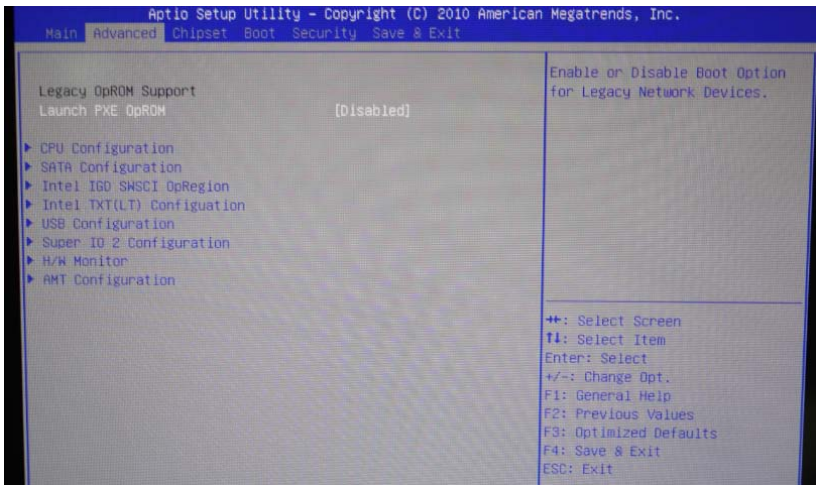
System Time

The time format is <hour>, <minute>, <second>. The time is based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00. Hour displays hours from 00 to 23. Minute displays minutes from 00 to 59. Second displays seconds from 00 to 59.

Advanced

The Advanced menu allows you to configure your system for basic operation. Some entries are defaults required by the system board, while others, if enabled, will improve the performance of your system or let you set some features according to your preference.

Setting incorrect field values may cause the system to malfunction.

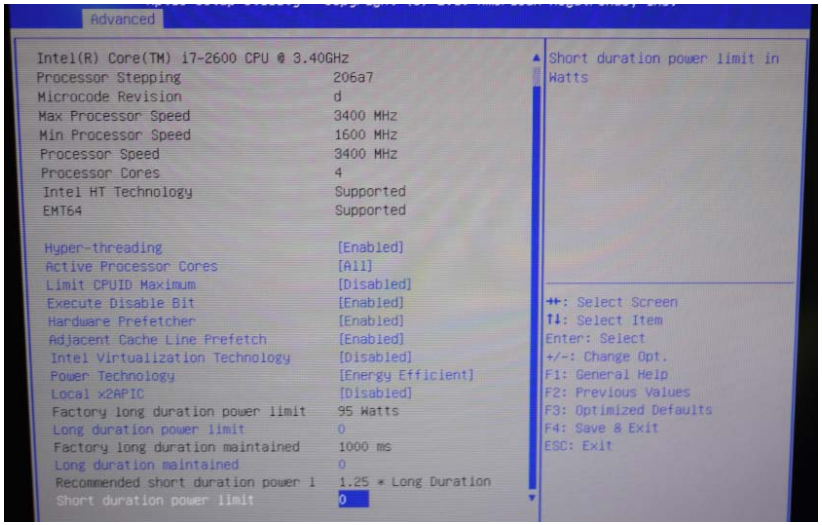


Launch PXE OpROM

Enables or disables the boot option for legacy network devices.

CPU Configuration

This section is used to configure the CPU.



CPU Configuration

Displays the detected CPU information.

Hyper-threading

Disable or Enable hyper-threading technology.

Active Processor Cores

This field is used to enter the number of cores to enable in each processor package.

Limit CPUID Maximum
The CPUID instruction of some newer CPUs will return a value greater than 3. The default is Disabled because this problem does not exist in the Windows series operating systems. If you are using an operating system other than Windows, this problem may occur. To avoid this problem, enable this field to limit the return value to 3 or lesser than 3.

Execute Disable Bit
When this field is set to Disabled, it will force the XD feature flag to always return to 0. XD can prevent certain classes of malicious buffer overflow attacks when combined with a supporting OS (Windows Server 2003 SP1, Windows XP SP2, SuSE Linux 9.2, RedHat Enterprise 3 Update 3.)

Hardware Prefetcher
Tuns on or off the Mid level Cache (L2) streamer prefetcher. The options are Enabled and Disabled.

Adjacent Cache Line Prefetch
Turns on or off prefetching of adjacent cache lines. The options are Enabled and Disabled.

Intel Virtualization Technology
When this field is set to Enabled, the VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

Power Technology
Configures the power management features.

Local x2APIC
Enables or disables the Local x2APIC. Some OSs doesn't support this feature.

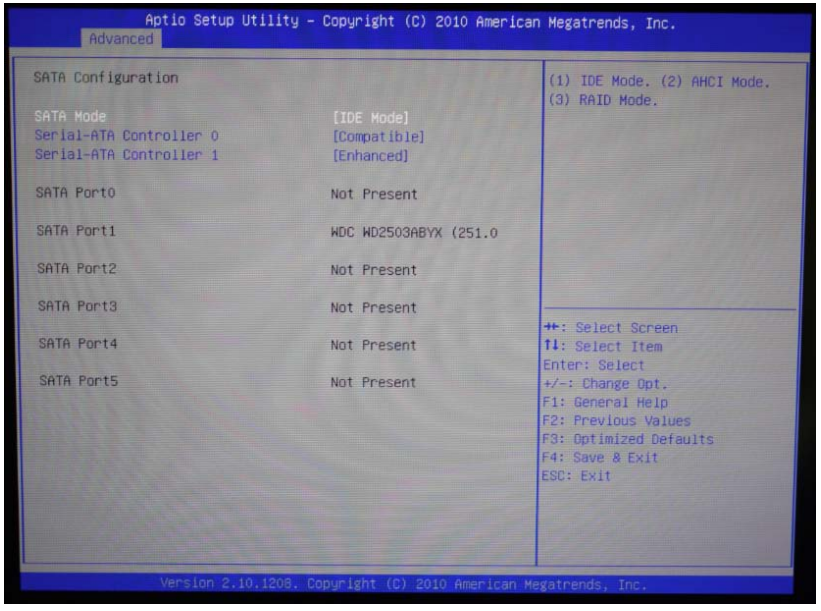
Long Duration Power Limit
Configures the long duration power limit in Watts.

Long Duration Maintained
Time window when the long duration power is maintained.

Short Duration Power Limit
Configures the short duration power limit in Watts.

SATA Configuration

This section is used to configure SATA.



SATA Mode

IDE Mode This option configures the Serial ATA drives in IDE mode.

AHCI Mode This option enables the RAID function for Serial ATA drives.

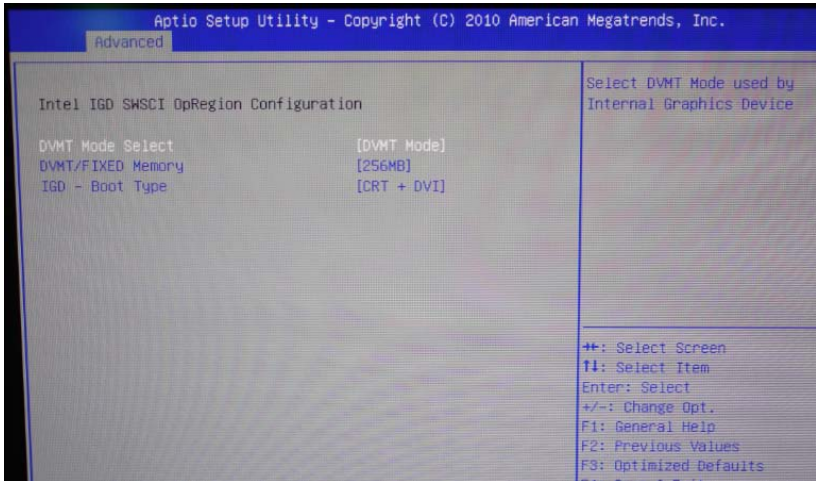
RAID Mode This option configures the Serial ATA drives in AHCI mode.

SATA Port0-5

Displays the hard drive installed on the SATA port.

Intel® IGD SWSCI OpRegion

This section is used to configure the Intel graphics display.



DVMT Mode Select

Selects the DVMT mode used by the internal graphics device.

DVMT/FIXED Memory

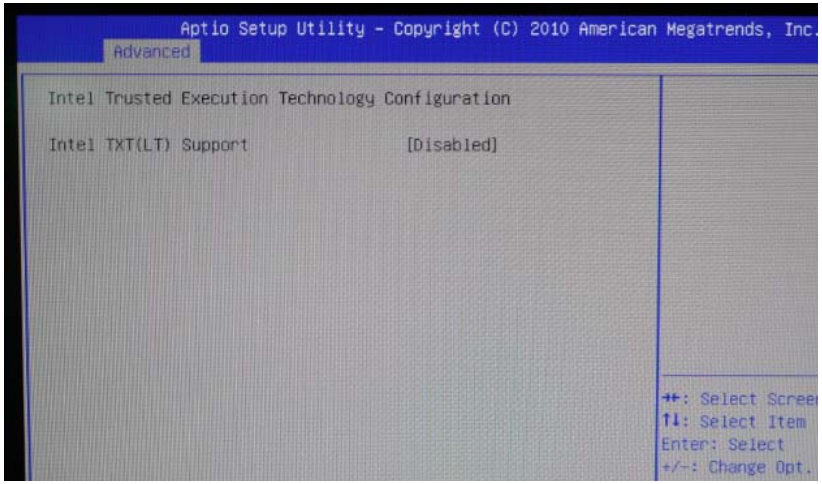
Selects the DVMT/FIXED mode memory size used by the internal graphics device.

IGD - Boot Type

Selects the video device that will be activated during POST. This will not affect any external graphics that may be present.

Intel® TXT(LT) Configuration

This section is used to configure the Intel TXT(LT).

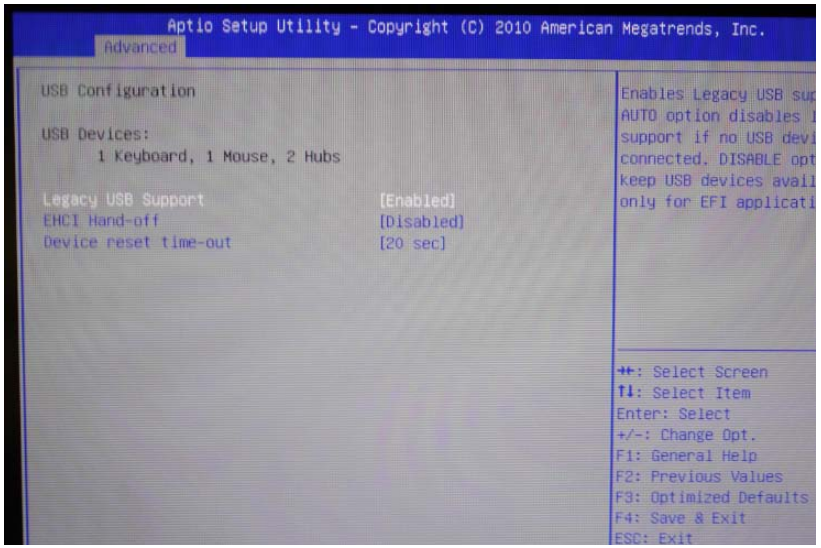


Intel® TXT(LT) Support

The options are Enabled and Disabled.

USB Configuration

This section is used to configure the USB.



USB Configuration

Displays the detected USB devices.

Legacy USB Support]

Enable Enables Legacy USB.

Auto Disables support for Legacy when no USB devices are connected.

Disable Keeps USB devices available only for EFI applications.

EHCI Hand-Off

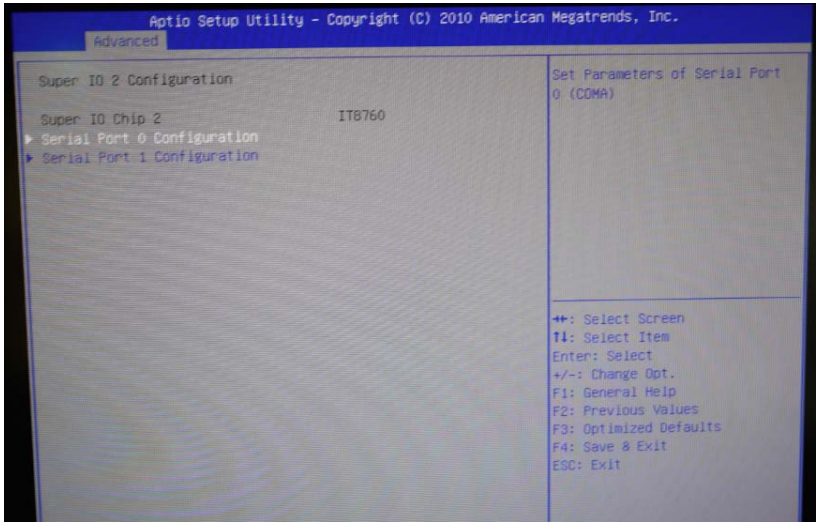
This is a workaround for OSs that does not support EHCI hand-off. The EHCI ownership change should be claimed by the EHCI driver.

Device Reset Timeout

Selects the USB mass storage device's start unit command timeout.

Super IO 2 Configuration

This section is used to configure the serial ports.

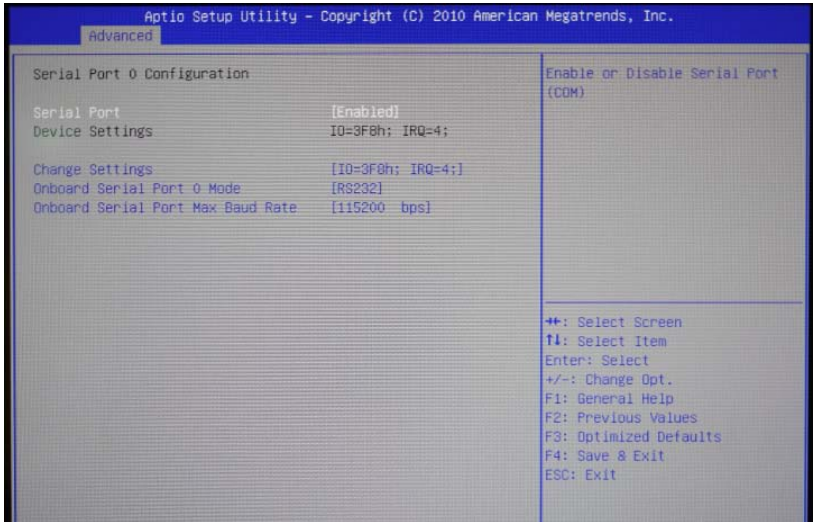


Super IO Chip 2

Displays the Super I/O chip used on the board.

Serial Port 0/1 Configuration

This section is used to configure the serial ports.



Serial Port

Enables or disables the serial port.

Change Settings

Selects an optimal setting for the Super IO device.

Onboard Serial Port 0/1 Mode

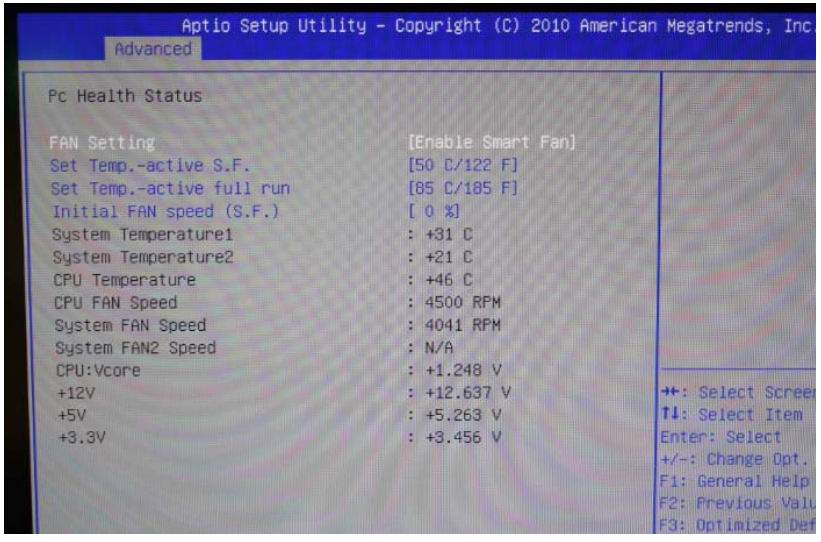
Select this to change the serial port mode to RS232, RS422 or RS485.

Onboard Serial Port Max Baud Rate

Select this to change the max baud rate of the serial port.

H/W Monitor

This section is used to configure the hardware monitoring events such as temperature, fan speed and voltages.



FAN Setting

Enables or disables Smart Fan technology, or set the FAN to spin at full speed.

System Temperature 1 to CPU Temperature

Detects and displays the internal temperature of the system and the current temperature of the CPU.

CPU Fan Speed to System Fan2 Speed

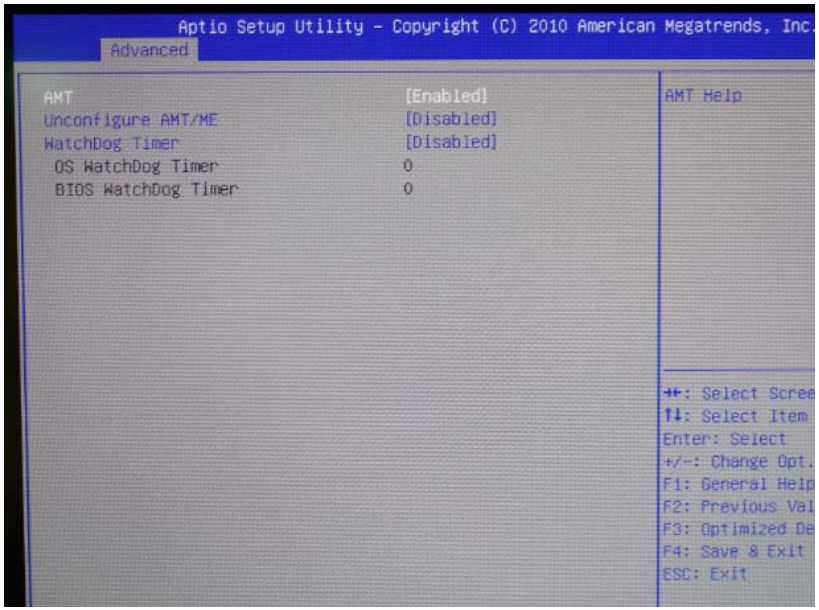
Detects and displays the current fan speed in RPM (Revolutions Per Minute).

CPU:Vcore to +3.3V

Detects and displays the output voltages.

AMT Configuration

This section is used to configure AMT.



AMT

Enables or disables the AMT function.

Unconfigure AMT/ME

Select Enabled to unconfigure the AMT/ME function without the need for a password.

Watchdog Timer

Enables or disables the Watchdog Timer function.

OS Watchdog Timer

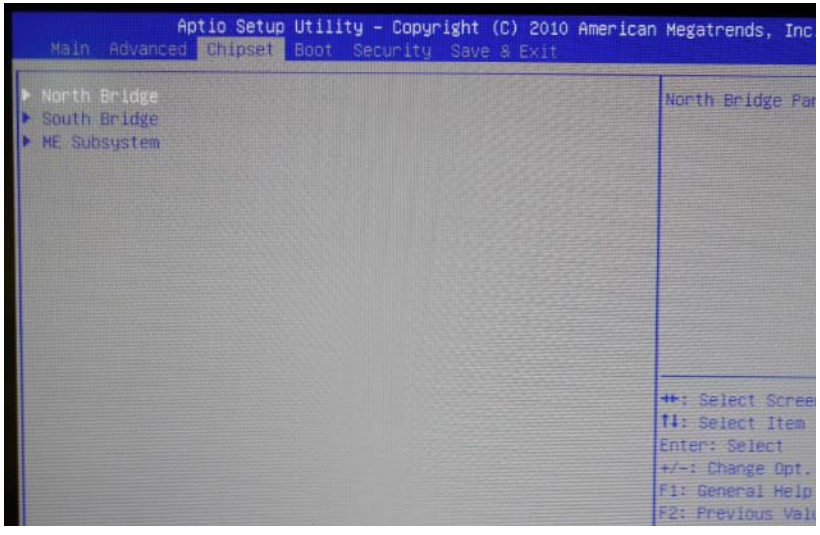
Selects the time interval of the OS Watchdog Timer.

BIOS Watchdog Timer

Selects the time interval of the BIOS Watchdog Timer.

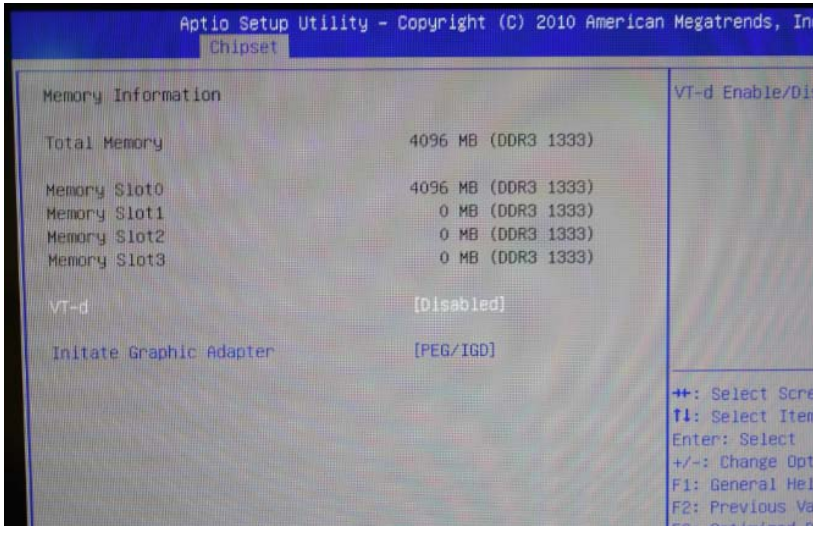
Chipset

This section gives you functions to configure the system based on the specific features of the chipset. The chipset manages bus speeds and access to system memory resources.



North Bridge

This section is used to configure the north bridge features.



VT-d

The options are Enabled and Disabled.

Initate Graphic Adapter

Enables or disables the onboard graphics card.

South Bridge

This section is used to configure the south bridge features.

SMBus Controller

Enables or disables the SMBus controller.

GbE Controller

Enables or disables the Gigabit LAN controller.

Wake On Lan From S5

When enabled, it allows the system to wake up from S5 via the network LAN.

Restore AC Power Loss

Power Off	When power returns after an AC power failure, the system's power is off. You must press the Power button to power-on the system.
Power On	When power returns after an AC power failure, the system will automatically power-on.
Last State	When power returns after an AC power failure, the system will return to the state where you left off before power failure occurs. If the system's power is off when AC power failure occurs, it will remain off when power returns. If the system's power is on when AC power failure occurs, the system will power-on when power returns.

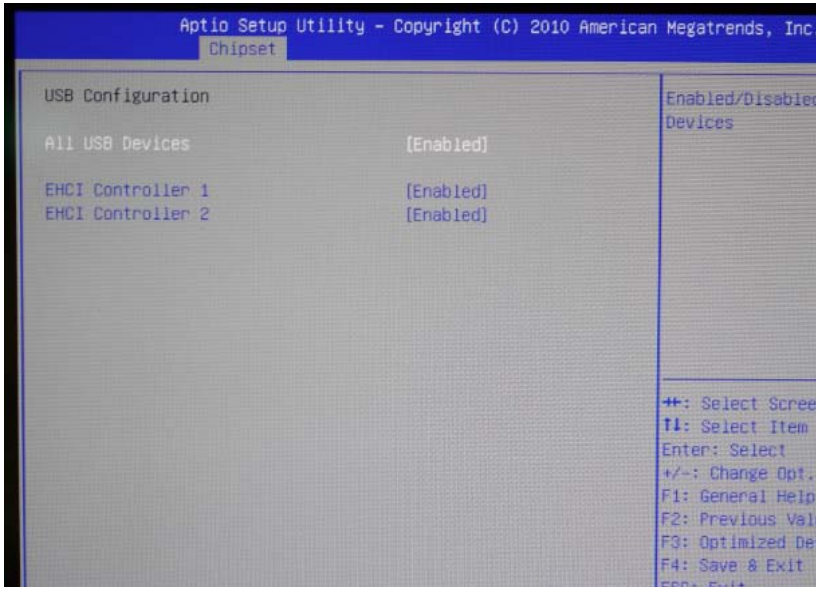
Azalia HD Audio

Enables or disables the Azalia HD audio.

High Precision Timer

Enables or disables the high precision event timer.

USB Configuration



All USB Devices

Enables or disables USB devices

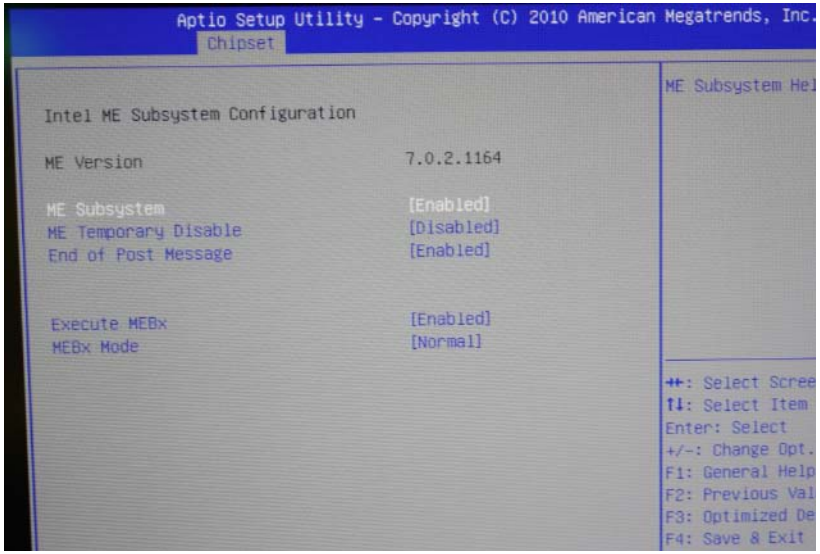
EHCI Controller 1

Enables or disables EHCI Controller 1

EHCI Controller 2

Enables or disables EHCI Controller 2

Intel® ME Configuration



ME Subsystem
The options are Enabled and Disabled.

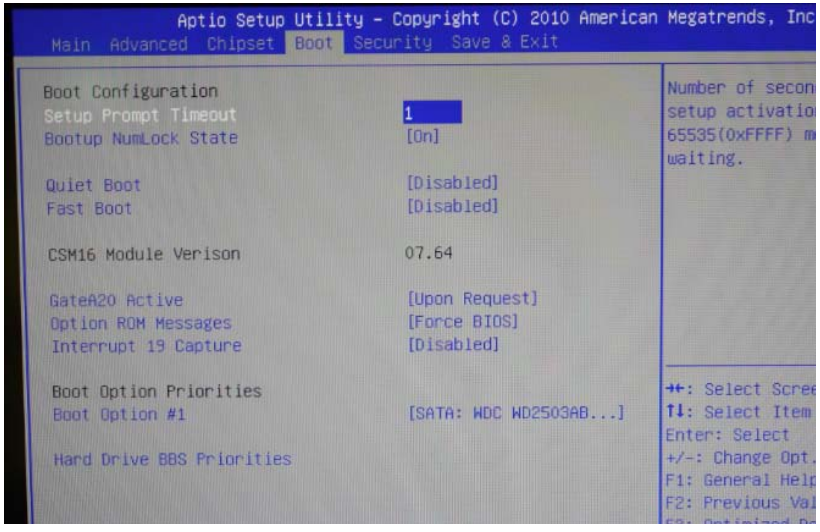
ME Temporary Disable
The options are Enabled and Disabled.

End of the POST Message
The options are Enabled and Disabled.

Execute MEBx
The options are Enabled and Disabled.

MEBx Mode
The options are Normal, Hidden Ctrl + P and Enter MEBx Setup.

Boot



Setup Prompt Timeout

Selects the number of seconds to wait for the setup activation key. 65535(0xFFFF) denotes indefinite waiting.

Bootup NumLock State

This allows you to determine the default state of the numeric keypad. By default, the system boots up with NumLock on wherein the function of the numeric keypad is the number keys. When set to Off, the function of the numeric keypad is the arrow keys.

Quiet Boot

Enabled	Displays OEM logo instead of the POST messages.
Disabled	Displays normal POST messages.

Gate A20 Active

Upon Request	GA20 can be disabled using BIOS services
Always	Does not allow disabling GA20. This option is useful when an RT code is executed above 1M.

Option ROM Messages

Selects the display mode for Option ROM. The options are Force BIOS and Keep Current.

Interrupt 19 Capture

When enabled, it allows the optional ROM to trap interrupt 19.

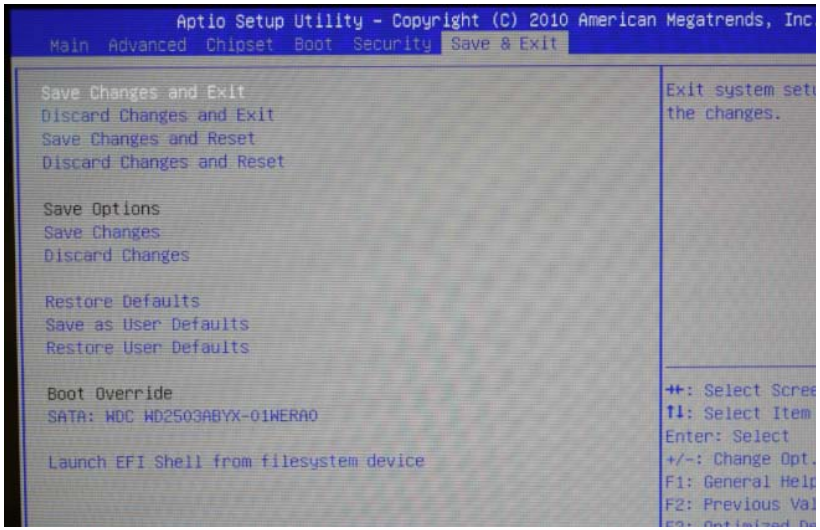
Boot Option Priorities

Adjust the boot sequence of the system. Boot Option #1 is the first boot device that the system will boot from, next will be #2 and so forth.

Hard Drive BBS Priorities

Adjust the boot sequence of the hard drives. Hard drive listed on top will have priority over the one below.

Save & Exit



Save Changes and Exit

To save the changes and exit the Setup utility, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes. You can also press <F4> to save and exit Setup.

Discard Changes and Exit

To exit the Setup utility without saving the changes, select this field then press <Enter>. You may be prompted to confirm again before exiting. You can also press <ESC> to exit without saving the changes.

Save Changes and Reset

To save the changes and reset, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes.

Discard Changes and Reset

To exit the Setup utility without saving the changes, select this field then press <Enter>. You may be prompted to confirm again before exiting.

Save Changes

To save changes and continue configuring the BIOS, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes.

Discard Changes

To discard the changes, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes to discard all changes made and restore the previously saved settings.

Restore Defaults

To restore the BIOS to default settings, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes.

Save as User Defaults

To use the current configurations as user default settings for the BIOS, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes.

Restore User Defaults

To restore the BIOS to user default settings, select this field then press <Enter>. A dialog box will appear. Confirm by selecing Yes.

Boot Override

To bypass the boot sequence from the Boot Option List and boot from a particular device, select the desired device and press <Enter>.

Launch EFI Shell from filesystem device

To launch EFI shell from a filesystem device, select this field and press <Enter>.