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NEXCOM International Co., Ltd.

Industrial Computing Solutions

Fan-less Computer

NISE 3140, NISE 3140E, NISE 3140P2, NISE 3140P2E

User Manual

NEXCOM International Co., Ltd.
Published December 2009

www.nexcom.com

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CONTENTS

Preface

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

Overview 1
NISE 3140/3140E 1
NISE 3140P2/3140P2E 2
Hardware Specifications 3
Getting to Know NISE 3140 Series 5
Front Panel 5
Rear Panel of NISE 3140/3140E 6
Rear Panel of NISE 3140P2/3140P2E 6
Mechanical Dimensions 8
NISE 3140/3140E 8
NISE 3140P2/3140P2E 9

Chapter 2: Jumpers And Connectors

Before You Begin 10
Precautions 10
Jumper Settings 11
Locations of the Jumpers and Connectors 12
Connectors Pin Definitions 14
External I/O Interface 14
Status Indicators 14
USB Ports 14
Remote Power On/Off Switch 15
PS/2 Keyboard/Mouse Port 15
16V-30V DC Input 16
Parallel Connector 16
Serial Interface 17
COM5 Connector 19
LAN Ports (CN8B) 20
LAN2 Ports (CN9B) 20
USB Ports (CN8A) 21
USB Ports (CN9A) 21
VGA Port 22
DVI-I Port Port 22

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Speaker-out Jack 23
Mic-in Jack 23
Internal Connectors 21
ATX Power Output Connector 24
CMOS Clear 24
Reset Connector 25
SMBus Pin Header 25
LVDS Power Select 26
LVDS Channel A Connector 26
LVDS Channel B Connector 27
LVDS Backlight Connector 27
CD-in Connector 28
SATA1 Port 28
SATA2 Port 29
SATA1 Power Connector 29
SATA2 Power Connector 30
CompactFlash 31
USB4 Connector 32
USB5 Connector 32
PCI Connector 33
PCIe x1 Slot 34
COM4 RI Pin Header 35
GPIO Connector 36
GPIO LED Connector 36
Smart Fan1 Connector 37
Smart Fan2 Connector 37
Power Push Button 38
External LED Pin Header 38
IEEE1394B-1 Connector (only on NISE 3140M / NISE 3144 series) ... 39
IEEE1394B-2 Connector (only on NISE 3140M / NISE 3144 series) ... 39

Chapter 3: System Setup

Removing the Chassis Cover 40
Installing a DIMM 41
Installing the CPU 43
Installing a SATA Hard Drive 46

Chapter 4: BIOS Setup

About BIOS Setup 49
When to Configure the BIOS 49
Entering Setup 50
BIOS Main Menu 50
Getting Help 51
Using the Control Keys 52
BIOS Setup Utility 53

Appendix A: Power Consumption

Test Configuration 69
Power Consumption Measurement 70

Appendix B: GPI/O Programming Guide

NISB3140 GPIO 71
IO base address : 800h 71

Appendix C: Watchdog Timer Setting

Watchdog Timer Setting 72

Appendix D: RAID Configuration

RAID Levels 74
Configuration 74

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PREFACE

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Acknowledgements

NISE 3140 Series (NISE 3140, NISE 3140E, NISE 3140P2, NISE 3140P2E) 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 equipment 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 interference, 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 European 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.

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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.

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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.

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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 inconsistent 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 described 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 needlenose pliers to disconnect connections as these can damage the soft metal or plastic parts of the connectors.

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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. Do not leave this equipment in either an unconditioned environment or in a above 40°C storage temperature as this may damage the equipment.
8. The openings on the enclosure are for air convection to protect the equipment from overheating. DO NOT COVER THE OPENINGS.
9. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
10. 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.
11. All cautions and warnings on the equipment should be noted.
12. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
13. Never pour any liquid into an opening. This may cause fire or electrical shock.
14. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
15. 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.
16. Do not place heavy objects on the equipment.
17. 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.
18. CAUTION: 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.
19. The computer is provided with CD drives that comply with the appropriate safety standards including IEC 60825.

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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.

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Package Contents

Before continuing, verify that the NISE 3140 Series package that you received is complete. Your package should have all the items listed in the following table.

Item	Description	Qty
1	DC CORD WIRE L:1050mm	1
2	PE ZIPPER BAG #3	1
3	PE ZIPPER BAG #8	1
4	DB44 TO 4X DB9 COM PORT	1
5	DOW CORNING 340 Silcone Heat Sink Compound(3g)	1
6	POWER CON 2P PHOENIX CONTACT	1
7	FLAT HEAD SCREW LONG FOR HDD USE	4
8	NISE3140 QUICK REFERENCE GUIDE	1
9	NISE3140 CD DRIVER	1
10	DVI-I TO VGA ADAPTER	1
11	MYLAR	1

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Ordering Information

The following provides ordering information for NISE 3140 Series.

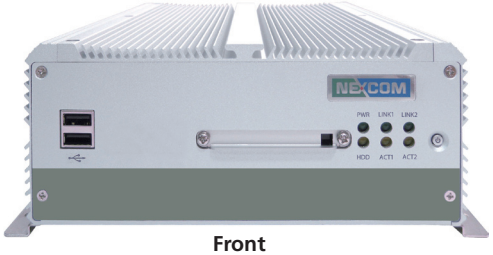
- **Barebone**
  NISE 3140 (P/N: 10J00314000X0)
  - Intel® Core™ 2 Duo / Celeron® Fan-less barebone system
  - 1 x PCI expansion
- **Barebone**
  NISE 3140E (P/N: 10J00314001X0)
  - Intel® Core™ 2 Duo / Celeron® Fan-less barebone system
  - 1 x PCIe x1 expansion
- **Barebone**
  NISE 3140P2 (P/N: 10J00314002X0)
  - Intel® Core™ 2 Duo / Celeron® Fan-less barebone system
  - 2 x PCI expansions
- **Barebone**
  NISE 3140P2E (P/N: 10J00314003X0)
  - Intel® Core™ 2 Duo / Celeron® Fan-less barebone system
  - 1 x PCI expansion
  - 1 x PCIe x1 expansion

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Chapter 1: Product Introduction

Overview

NISE 3140/3140E



Front



Rear

Key Features

- Intel® Core™ 2 Duo / Celeron® processor
- Intel® GM45 chipset
- Dual Intel® 82574L Gigabit Ethernet ports
- Dual VGA or VGA/DVI Independent Display
- 3x RS232 and 1x RS232/422/485 with Auto Direction Control
- Supports 1 SATA drive bay
- One external locked CF socket
- Onboard DC to DC power design to support 16V to 30V DC power input
- Supports ATX power mode and PXE/WOL
- One PCI slot (NISE 3140)
- One PCIe x1 slot (NISE 3140E)

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NISE 3140P2/3140P2E



Front



Rear

Key Features

- Intel® Core™ 2 Duo / Celeron® processor
- Intel® GM45 chipset
- Dual Intel® 82574L Gigabit Ethernet ports
- Dual VGA or VGA/DVI Independent Display
- 3x RS232 and 1x RS232/422/485 with Auto Direction Control
- Supports 2 SATA drive bays
- One external CF socket
- Onboard DC to DC power design to support 16V to 30V DC power input
- Supports ATX power mode and PXE/WOL
- Two PCI slots (NISE 3140P2)
- One PCI slot and one PCIe x1 slot (NISE 3140P2E)

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Hardware Specifications

Main Board

- NISB 3140
- Support Intel® Core™ 2 Duo Processor P8600 (3M Cache, 2.40 GHz, 1066 MHz FSB)
- Support Intel® Core™ 2 Duo Processor P8400 (3M Cache, 2.26 GHz, 1066 MHz FSB)
- Support Intel® Celeron® Processor 575 (1M Cache, 2.00 GHz, 667 MHz FSB)

Main Memory

- 2x 240-pin DIMM sockets
- Up to 4GB DDR3 800/1066 MHz SDRAM, un-buffered and non-ECC

Chipset

- Intel® GM45 Graphics and Memory Controller Hub
- Featuring the Mobile Intel® Graphics Media Accelerator 4500MHD
- Intel® 82801IBM I/O Controller Hub

I/O Interface - Front

- ATX power on/off switch
- HDD Access / Power status LEDs
- 2 x USB2.0 ports

I/O Interface - Rear

- 2-pin Remote Power on/off switch
- 16 ~ 30V DC input
- 1 x PS/2 for Keyboard/Mouse
- 1 x DB25 Parallel Port (Optional GPIO or LVDS interface)
- 1 x DB44 Serial Port for 4x RS232 (COM2: RS232/422/485 with Auto Flow Control)
- 2 x Gbe LAN ports
- 4 x USB2.0 ports
- 1 x DB15 VGA port
- 1 x DVI-I Port (DVI-D + VGA)
- 1 x Speaker-out
- 1 x Line-in

Device

- 1 x 2.5" SATA HDD drive bay
- 1 external locked CF card socket
- Optional power adapter

Expansion

- NISE 3140 / NISE 3140E
  - One PCI expansion (NISE 3140 only)
  - One PCIe x1 expansion (NISE 3140E only)
  - Max. Supported Add-on Card Length: 169mm
- NISE 3140P2 / NISE 3140P2E
  - Two PCI expansion (NISE 3140P2 only)
  - One PCI and one PCIe x1 expansion (NISE 3140P2E only)
  - Max. Supported Add-on Card Length: 1x 169mm and 1x 240mm

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Power Requirements

- ATX power mode
- Onboard DC to DC power support from 16V to 30VDC

Dimensions

- NISE 3140 / NISE 3140E
  195mm (W) x 268mm (D) x 80mm (H) (7.6" x 10.5" x 3.1")
- NISE 3140P2 / NISE 3140P2E
  195mm (W) x 268mm (D) x 107mm (H) (7.6" x 10.5" x 4.2")

Construction

- Aluminum chassis with fan-less design

Environment

- Operating temperature:
  Ambient with airflow: -5°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (Non-Condensing)

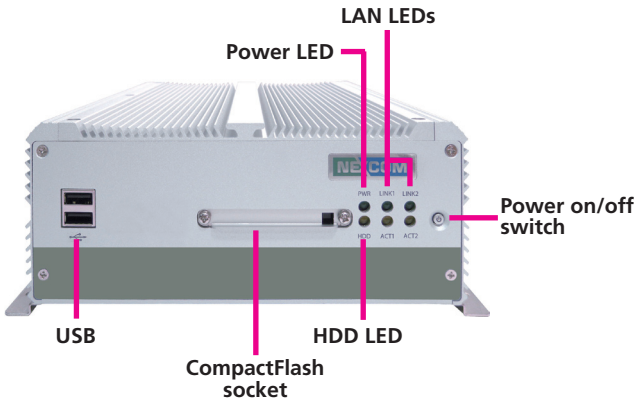
Certifications

- CE approval
- FCC Class B

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Getting to Know NISE 3140 Series

Front Panel



Power On/Off Switch

Press to power-on or power-off the system.

Power LED

Indicates the power status of the system.

HDD LED

Indicates the status of the hard drive.

LAN LEDs

Indicate the status of the LAN ports.

CompactFlash Socket

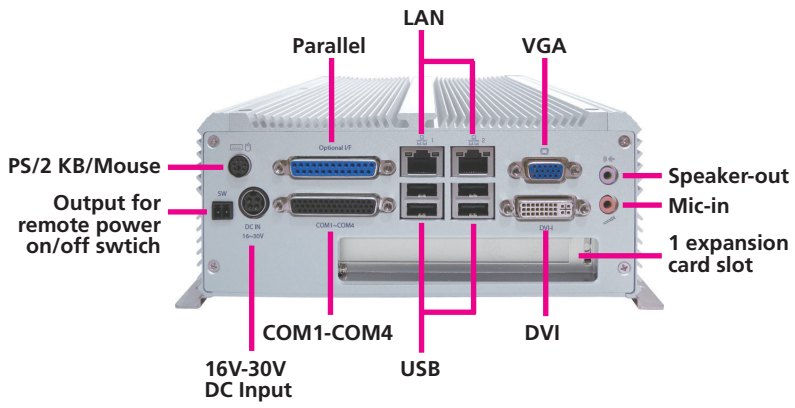
Used to insert a CompactFlash card.

USB

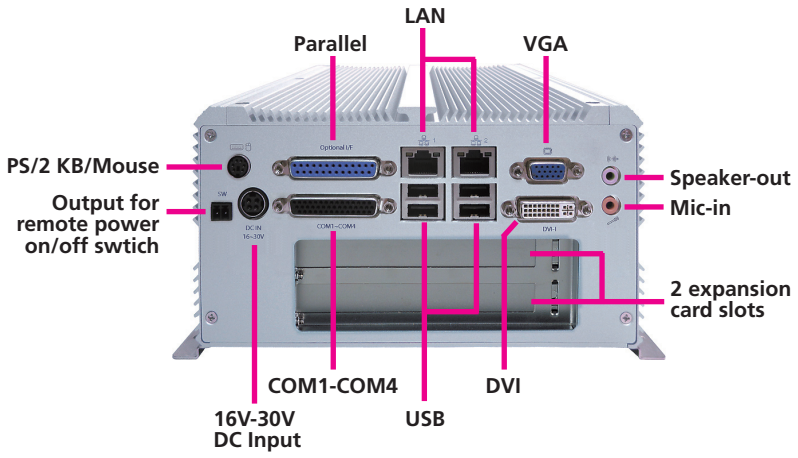
Used to connect USB 2.0/1.1 devices.

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Rear Panel of NISE 3140/3140E



Rear Panel of NISE 3140P2/3140P2E



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Output for Remote Power On/Off Switch

Used to connect a remote to power on/off the system.

PS/2 Keyboard/Mouse

Used to connect a PS/2 keyboard and PS/2 mouse via a cable.

16V-30V DC Input

Used to plug a DC power cord.

Parallel

Used to connect a parallel device.

COM1 to COM4

The DB44 port supports 3 RS232 and 1 RS232/422/485 compatible serial devices.

LAN

Used to connect the system to a local area network.

USB

Used to connect USB 2.0/1.1 devices.

VGA

Used to connect an analog VGA monitor.

DVI

Used to connect a digital LCD panel.

Speaker-out

Used to connect a headphone or a speaker.

Mic-in

Used to connect an external microphone.

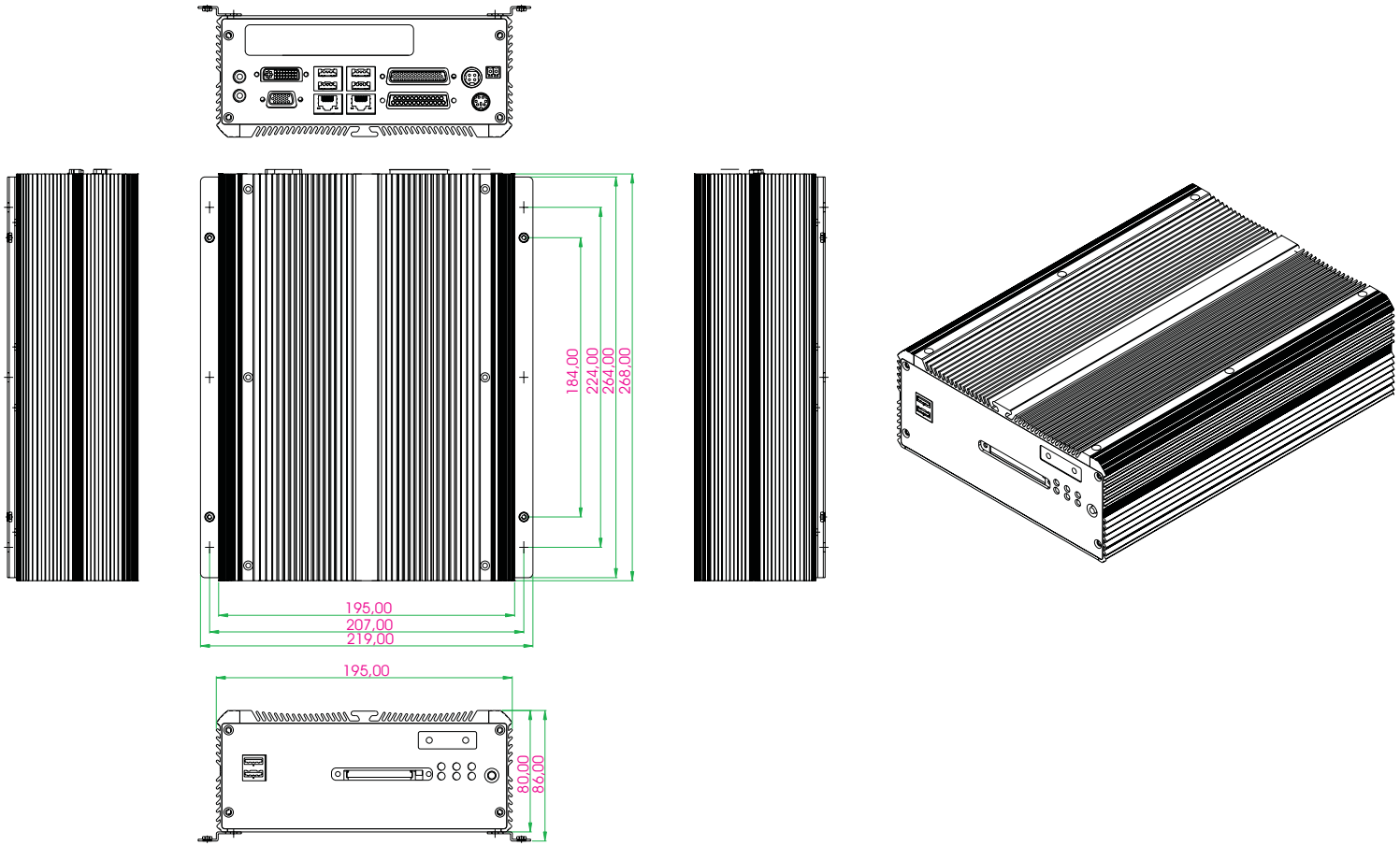
Expansion Slots

- NISE 3140/3140E: 1 expansion slot
- NISE 3140P2/3140P2E: 2 expansion slots

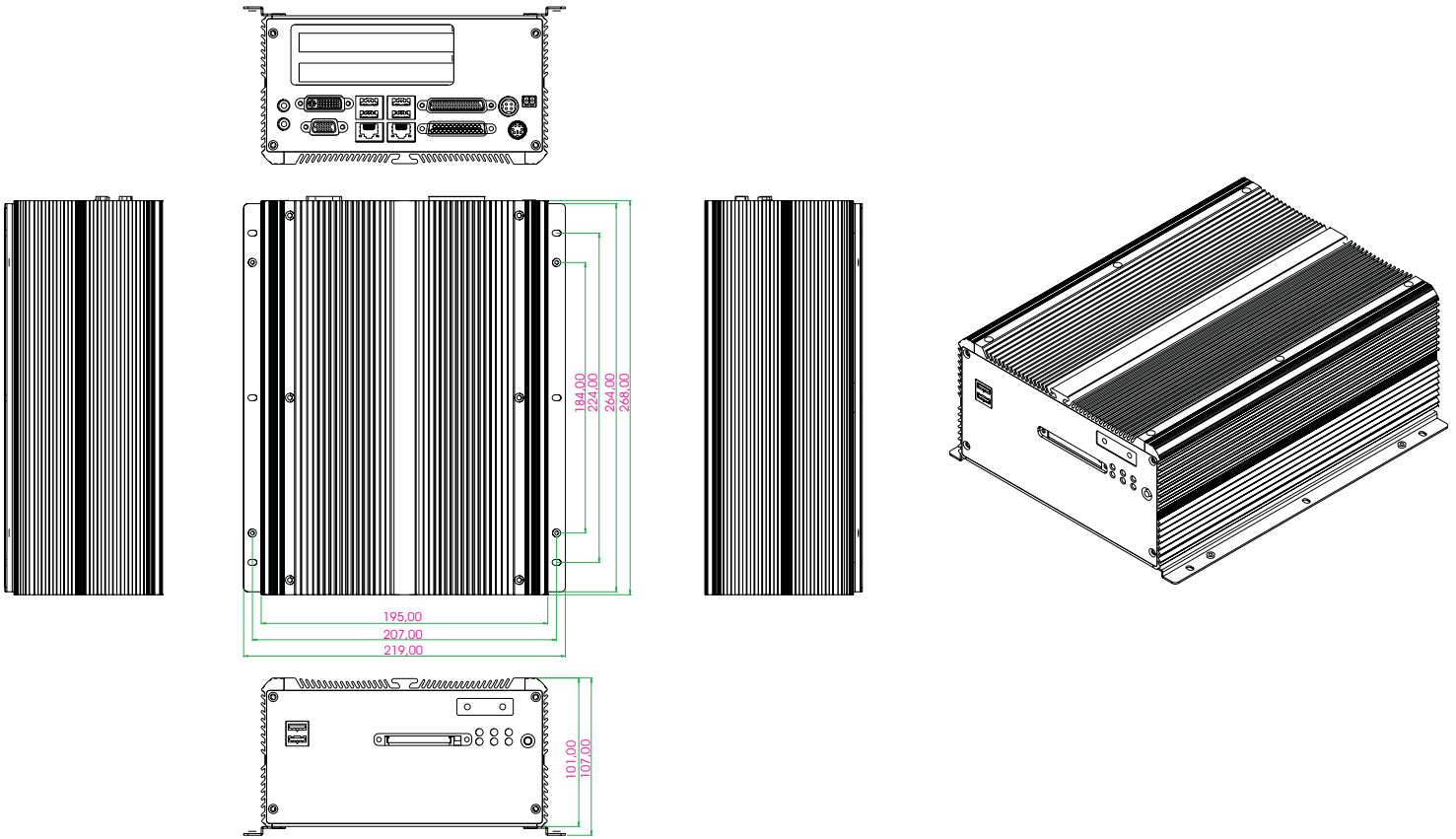
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Mechanical Dimensions

NISE 3140/3140E



NISE 3140P2/3140P2E



Chapter 2: Jumpers and Connectors

This chapter describes how to set the jumpers on the motherboard. Note that the following procedures are generic for all NISE 3140 series.

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 the 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.

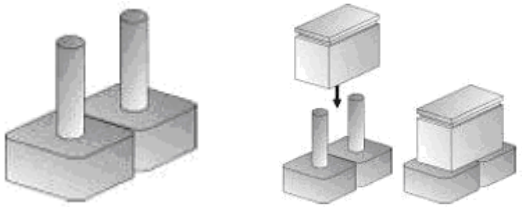
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Jumper Settings

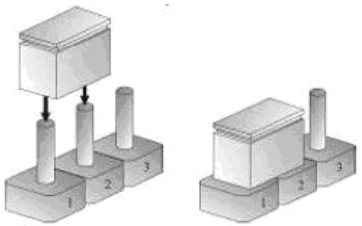
A jumper is the simplest kind of electric switch. It consists of two metal pins and a cap. When setting the jumpers, ensure that the jumper caps are placed on the correct pins. When the jumper cap is placed on both pins, the jumper is **short**. If you remove the jumper cap, or place the jumper cap on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

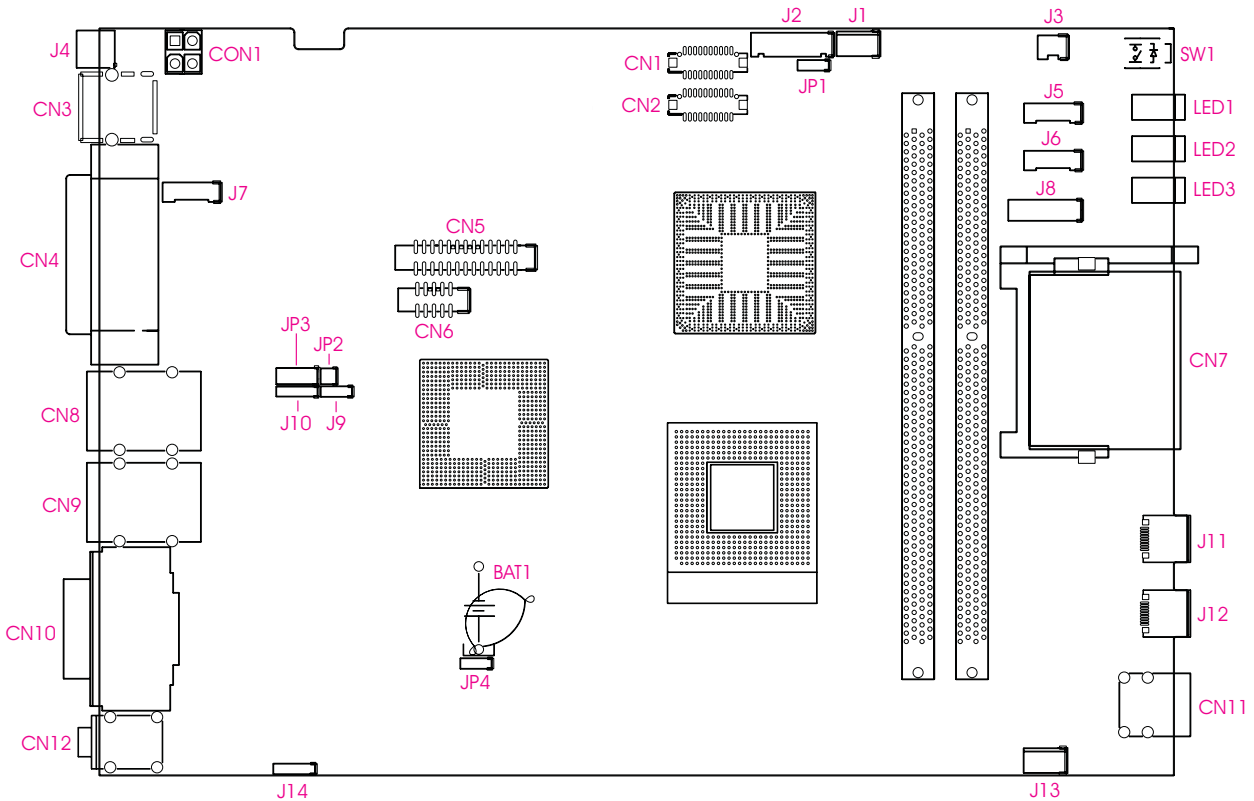


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Locations of the Jumpers and Connectors

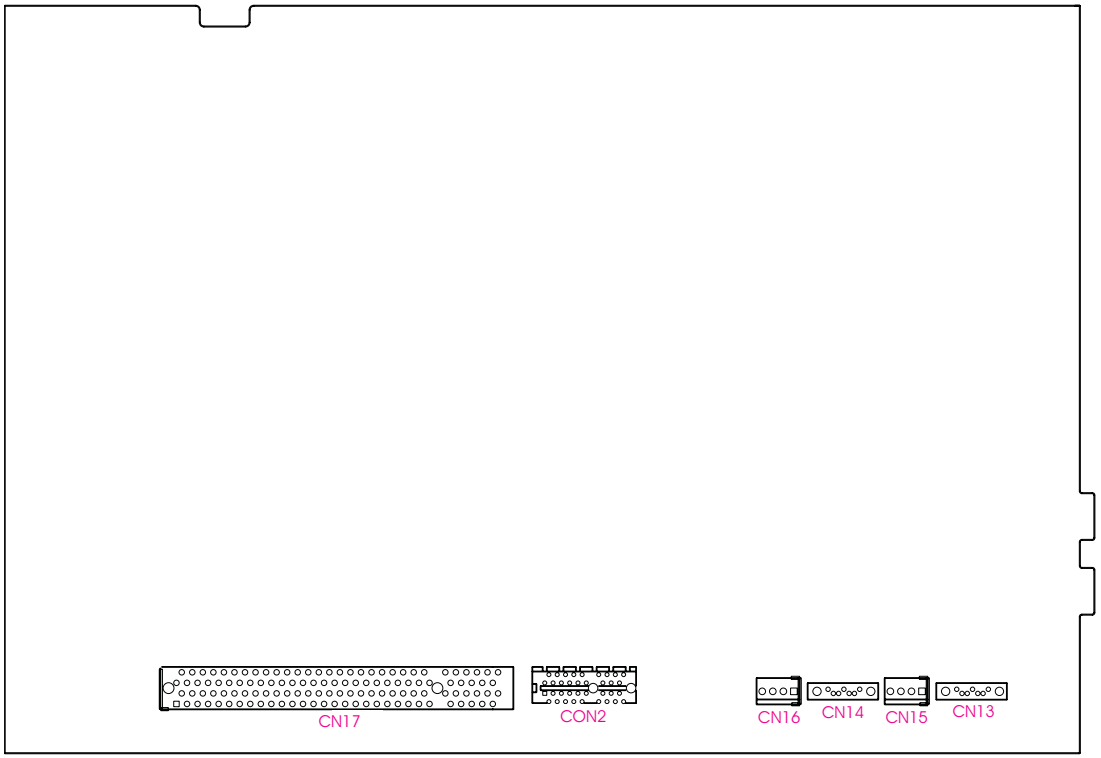
NISB3140

The figure on the right is the top view of the NISB3140 main board which is the main board used in the NISE 3140 Series system. It shows the locations of the jumpers and connectors.



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The figure below is the bottom view of the NISB3140 main board.

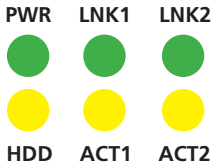


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Connector Pin Definitions

External I/O Interface

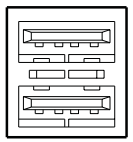
Status Indicators



Status	LED Color
PWR	Green
HDD	Yellow
LNK1, LNK2	Green lighted: LAN ports linked
ACT1, ACT2	Yellow blinking: Data activity

USB Ports

Connector size: Dual USB port
Connector location: CN11



Pin	Definition	Pin	Definition
1	VCC5	7	USB5+
2	USB4-	8	GND
3	USB4+	22	GND
4	GND	23	GND
5	VCC5	26	GND
6	USB5-	27	GND

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Remote Power On/Off Switch

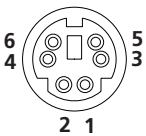
Connector size: 2-pin switch
Connector location: J4

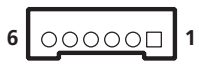


Pin	Definition
1	GND
2	PWRBT

PS/2 Keyboard/Mouse Port

Connector size: PS/2, Mini-DIN-6, JST-2.0mm-M-180
Connector location: J7



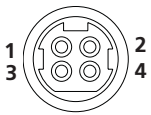


Pin	Definition	Pin	Definition
1	VCC5	2	KDAT
3	KCLK	4	MDAT
5	MCLK	6	GND

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16V-30V DC Input

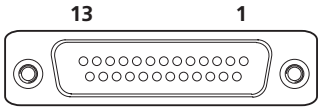
Connector size: 4-pin power jack, 15x16x17.4mm, POWER-F-90
Connector location: CN3



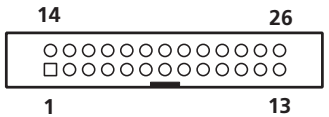
Pin	Definition	Pin	Definition
1	VIN	2	VIN
3	GND	4	GND

Parallel Connector

Connector size: 25-pin D-Sub, 2x13 (2.0mm), BOX-2.0mm-M-180
Connector location: CN5



25-pin D-Sub



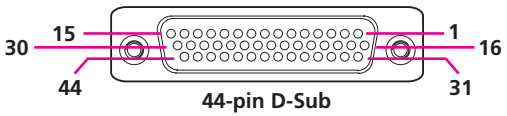
2x13 (2.0mm)

Pin	Definition	Pin	Definition
1	LPT_ STB#	2	LPT_ PRD0
3	LPT_ PRD1	4	LPT_ PRD2
5	LPT_ PRD3	6	LPT_ PRD4
7	LPT_ PRD5	8	LPT_ PRD6
9	LPT_ PRD7	10	LPT_ACK#R
11	LPT_BUSY	12	LPT_PE
13	LPT_SLCT	14	LPT_AFD#
15	LPT_ERR#	16	LPT_INIT#
17	LPT_SLIN#	18	GND
19	GND	20	GND
21	GND	22	GND
23	GND	24	GND
25	GND	26	NC

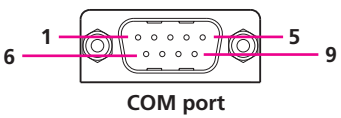
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Serial Interface (COM 1 - COM 4)

Connector size: 44-pin D-Sub, 2x22 (12.55mm x 53.04mm)
Connector location: CN4



The 44-pin D-Sub connector is used to connect 4 external serial devices. Use the COM ports on the provided "DB44 to 4x DB9 COM port cable" (included in the package) to connect the devices.



Pin	Definition	Pin	Definition
1	COM1_DCD	2	COM1_RXD
3	COM1_TXD	4	COM1_DTR
5	GND	6	COM1_DSR
7	COM1_RTS	8	COM1_CTS
9	COM1_RI	10	GND
11	COM2_DCD	12	COM2_RXD
13	COM2_TXD	14	COM2_DTR
15	GND	16	COM2_DSR
17	COM2_RTS	18	COM2_CTS
19	COM2_RI	20	GND
21	COM3_DCD	22	COM3_RXD
23	COM3_TXD	24	COM3_DTR
25	GND	26	COM3_DSR
27	COM3_RTS	28	COM3_CTS
29	COM3_RI	30	GND
31	COM4_DCD	32	COM4_RXD
33	COM4_TXD	34	COM4_DTR
35	GND	36	COM4_DSR
37	COM4_RTS	38	COM4_CTS
39	COM4_RI	40	GND
41	NC	42	NC
43	NC	44	NC

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COM1 (RS232) labelled "A" on DB9 Cable Connector					
DB44 Pin #	DB9 Pin #	Def.	DB44 Pin #	DB9 Pin #	Def.
1	1	DCD1	2	2	RXD1
3	3	TXD1	4	4	DTR1
5	5	GND	6	6	DSR1
7	7	RTS1	8	8	CTS1
9	9	RI1	10		GND

COM2 (RS232) labelled "B" on DB9 Cable Connector					
DB44 Pin #	DB9 Pin #	Def.	DB44 Pin #	DB9 Pin #	Def.
11	1	DCD2	12	2	RXD2
13	3	TXD2	14	4	DTR2
15	5	GND	16	6	DSR2
17	7	RTS2	18	8	CTS2
19	9	RI2	20		GND

COM3 (RS232) labelled "C" on DB9 Cable Connector					
DB44 Pin #	DB9 Pin #	Def.	DB44 Pin #	DB9 Pin #	Def.
21	1	DCD3	22	2	RXD3
23	3	TXD3	24	4	DTR3
25	5	GND	26	6	DSR3
27	7	RTS3	28	8	CTS3
29	9	RI3	30		GND

COM4 (RS232) labelled "D" on DB9 Cable Connector					
DB44 Pin #	DB9 Pin #	Def.	DB44 Pin #	DB9 Pin #	Def.
31	1	DCD4	32	2	RXD4
33	3	TXD4	34	4	DTR4
35	5	GND	36	6	DSR4
37	7	RTS4	38	8	CTS4
39	9	RI4	40		GND
41		NC	42		NC
43		NC	44		NC

Note: Pin 39 is defined as an external power source, which can be selected for 5V or 12V using JP10.

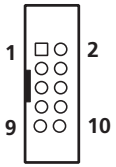
COM2 (RS422) labelled "B" on DB9 Cable Connector					
DB44 Pin #	DB9 Pin #	Def.	DB44 Pin #	DB9 Pin #	Def.
11	1	TXD-	12	2	TXD+
13	3	RXD+	14	4	RXD-
15	5	GND	16	6	RTS-
17	7	RTS#	18	8	CTS+
19	9	CTS-	20		GND

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COM2 (RS485) labelled "B" on DB9 Cable Connector					
DB44 Pin #	**DB9 Pin #**	**Def.**	**DB44 Pin #**	**DB9 Pin #**	**Def.**
11	1	TXD-	12	2	TXD+
		RXD-			RXD+
13	3	Reserved	14	4	Reserved
15	5	Reserved	16	6	Reserved
17	7	Reserved	18	8	Reserved
19	9	Reserved	20		Reserved

COM5 Connector

Connector size: 2x5 (2.0mm -M-180)
Connector location: CN6

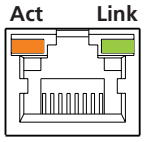


Pin	Definition	Pin	Definition
1	COM5_DCD	2	COM5_RXD
3	COM5_TXD	4	COM5_DTR
5	GND	6	COM5_DSR
7	COM5_RTS	8	COM5_CTS
9	COM5_RI	10	GND

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LAN Ports

Connector size: RJ45 port with LEDs
Connector location: CN8B (LAN1)



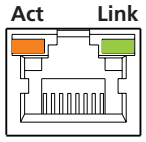
Act	Status
Orange Blinking	Data Activity
Off	No Acitivity

Link	Status
Green Always Lighted	Linked
Off	No Link

Pin	Definition	Pin	Definition
09	LAN1_M0P	10	LAN1_M0N
11	LAN1_M1P	12	LAN1_M2P
13	LAN1_M2N	14	LAN1_M1N
15	LAN1_M3P	16	LAN1_M3N
17	LAN1_LED1P	18	LAN1_LED_ACT#
19	LAN1_LED2P	20	LAN1_LINK#
21	GND	24	GND
25	GND	28	GND

LAN2 Ports

Connector size: RJ45 port with LEDs
Connector location: CN9B (LAN2)



Act	Status
Orange Blinking	Data Activity
Off	No Acitivity

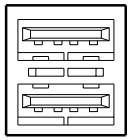
Link	Status
Green Always Lighted	Linked
Off	No Link

Pin	Definition	Pin	Definition
09	LAN2_M0P	10	LAN2_M0N
11	LAN2_M1P	12	LAN2_M2P
13	LAN2_M2N	14	LAN2_M1N
15	LAN2_M3P	16	LAN2_M3N
17	LAN2_LED1P	18	LAN2_LED_ACT#
19	LAN2_LED2P	20	LAN2_LINK#
21	GND	24	GND
25	GND	28	GND

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USB Ports

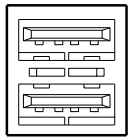
Connector size: Dual USB port
Connector location: CN8A



Pin	Definition	Pin	Definition
1	VCC5	5	VCC5
2	USB0-	6	USB1-
3	USB0+	7	USB1+
4	GND	8	GND
22	GND	23	GND
26	GND	27	GND

USB Ports

Connector size: Dual USB port
Connector location: CN9A

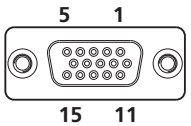


Pin	Definition	Pin	Definition
1	VCC5	5	VCC5
2	USB2-	6	USB3-
3	USB2+	7	USB3+
4	GND	8	GND
22	GND	23	GND
26	GND	27	GND

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VGA Port

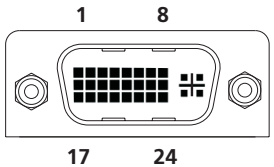
Connector size: DB-15 port, 15-pin D-Sub
Connector location: CN10B

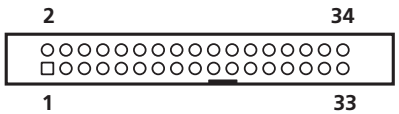


Pin	Definition	Pin	Definition
25	RED	26	GREEN
27	BLUE	28	GND
29	GND	30	GND
31	GND	32	GND
33	VCC5	34	GND
35	GND	36	DDC_DATA
37	HSYNC	38	VSYNC
39	DDC_CLK	MH3	GND
MH4	GND		

DVI-I Port

Connector size: 30-pin D-Sub, 2.0mm-M-180
Connector location: CN10A



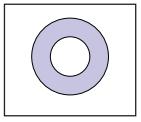


Pin	Function	Pin	Function
01	HDMI_DATA2_N	2	HDMI_DATA2_P
03	GND	4	NC
05	DDC_DATA	6	HDMI _DDC_CLK
07	HDMI	8	DDC_VSYNC_VGA
09	HDMI_DATA1_N	10	HDMI_DATA1_P
11	GND	12	NC
13	NC	14	VCC5
15	GND	16	HDMIC_HPD
17	HDMI_DATA0_N	18	HDMI_DATA0_P
19	GND	20	DDC_DATA_VGA
21	DDC_CLK_VGA	22	NC
23	HDMI_CLK_P	24	HDMI_CLK_N
C1	RED_VGA	C2	GREEN_VGA
C3	BLUE_VGA	C4	HSYNC_VGA
C5A	GND	C5B	GND

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Speaker-out Jack

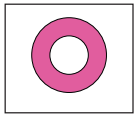
Connector size: 5-pin jack, 25.9x12.6x17.0mm
Connector location: CN12B



Pin	Definition
22	LINE_OUT_L
23	GND
24	LINE_JD
25	LINE_OUT_R

Mic-in Jack

Connector size: 5-pin jack, 25.9x12.6x17.0mm
Connector location: CN12A



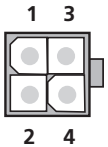
Pin	Definition
1	GND
2	MIC_OUT-L
3	GND
4	MIC_JD
5	MIC_OUT-R

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Internal Connectors

ATX Power Output Connector

Connector size: 2x2
Connector location: CON1



Pin	Definition
1	GND
2	GND
3	VIN
4	VIN

CMOS Clear

Connector size: 1x3 (2.54mm-M-180)
Connector location: JP4



Pin	Definition
1	RTC
2	RTCRST#
3	CLR_CMOS

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Reset Connector

Connector size: 1x2 (JST 2.5mm-M-90)
Connector location: J3



Pin	Definition
1	SYS_RESET#
2	GND

SMBus Pin Header

Connector size: 1x3 (2.54mm-M-180)
Connector location: J9



Pin	Definition
1	SMB_CLK
2	SMB_DATA
3	GND

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LVDS Power Select

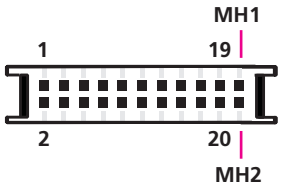
Connector size: 1x3 (2.54mm-M-180)
Connector location: JP1



Pin	Definition
1	VCC5
2	PANEL_VDD
3	VCC3

LVDS Channel A Connector

Connector size: LCD-1.25mm-M-180
Connector location: CN2

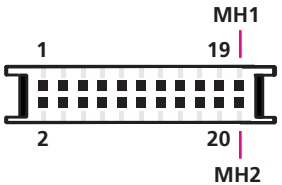


Pin	Definition	Pin	Definition
1	L_DDC_CLK	2	L_DDC_DATA
3	PANEL_VDD	4	LA_DATAP0
5	LA_DATAP3	6	LA_DATAN0
7	LA_DATAN3	8	PANEL_VDD
9	GND	10	LA_DATAP1
11	LA_CLKP	12	LA_DATAN1
13	LA_CLKN	14	GND
15	GND	16	+12V
17	LA_DATAP2	18	+12V
19	LA_DATAN2	20	GND

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LVDS Channel B Connector

Connector size: LCD-1.25mm-M-180
Connector location: CN1



Pin	Definition	Pin	Definition
1	L_DDC_CLK	2	L_DDC_DATA
3	PANEL_VDD	4	LB_DATAP0
5	LB_DATAP3	6	LB_DATAN0
7	LB_DATAN3	8	PANEL_VDD
9	GND	10	LB_DATAP1
11	LB_CLKP	12	LB_DATAN1
13	LB_CLKN	14	GND
15	GND_LVDS	16	+12V
17	LB_DATAP2	18	+12V
19	LB_DATAN2	20	GND

LVDS Backlight Connector

Connector size: 1x7 (JST-2.5mm-M-180)
Connector location: J2



Pin	Definition
1	VCC5
2	+12V
3	+12V
4	BKLTCTL
5	GND
6	GND
7	BKLTEN

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CD-in Connector

Connector size: 1x4 (2.54mm-M-180)
Connector location: J14



Pin	Definition
1	CD_L
2	GND
3	GND
4	CD_R

SATA1 Port

Connector size: Standard Serial ATAII 7P (1.27mm, SATA-M-180)
Connector location: CN13



Pin	Definition
1	GND
2	SATA_TXP0
3	SATA_TXN0
4	GND
5	SATA_RXN0
6	SATA_RXP0
7	GND

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SATA2 Port

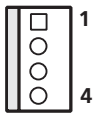
Connector size: Standard Serial ATAII 7P (1.27mm, SATA-M-180)
Connector location: CN14



Pin	Definition
1	GND
2	SATA_TXP1
3	SATA_TXN1
4	GND
5	SATA_RXN1
6	SATA_RXP1
7	GND

SATA1 Power Connector

Connector size: 4-pin Wafer, 2.54mm-M-180
Connector location: CN16



Pin	Definition
1	+12V
2	GND
3	GND
4	VCC5

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SATA2 Power Connector

Connector size: 4-pin Wafer, 2.54mm-M-180
Connector location: CN15

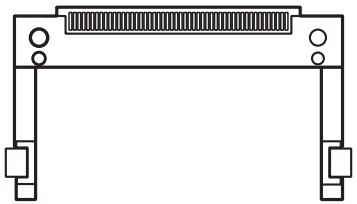


Pin	Definition
1	+12V
2	GND
3	GND
4	VCC5

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CompactFlash

Connector type: 2x25 (2.5mm)
Connector location: CN7

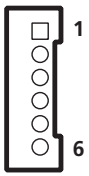


Pin	Description	Pin	Description
1	GND	2	PDD3
3	PDD4	4	PDD5
5	PDD6	6	PDD7
7	-PCS0	8	GND
9	GND	10	GND
11	GND	12	GND
13	VCC5	14	GND
15	GND	16	GND
17	GND	18	PDA2
19	PDA1	20	PDA0
21	PDD0	22	PDD1
23	PDD2	24	NC
25	CF_CD#2	26	CF_CD#1
27	PDD11	28	PDD12
29	PDD13	30	PDD14
31	PDD15	32	-PCS1
33	NC	34	-PDIOR
35	-PDIOW	36	VCC5
37	IRQ14	38	VCC5
39	CF_CSEL#	40	NC
41	CF_RST#	42	PHDRDY
43	PDDREQ	44	PDDACK
45	IDE_ACT#	46	PPDIAG#
47	PDD8	48	PDD9
49	PDD10	50	GND

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USB4 Connector

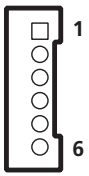
Connector size: 6-pin boxed header, JST-2.0mm-M-180
Connector location: J5



Pin	Definition
1	VCC5
2	USB6-
3	USB6+
4	USB7-
5	USB7+
6	GND

USB5 Connector

Connector size: 6-pin boxed header, JST-2.0mm-M-180
Connector location: J6

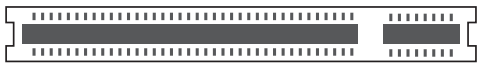


Pin	Definition
1	VCC5
2	USB8-
3	USB8+
4	USB9-
5	USB9+
6	GND

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PCI Connector

Connector size: DF13-40DS-1.25DSA
Connector location: CN17



Pin	Definition	Pin	Definition
A	GND	B	PDD3
A	PDD5	B	PDD6
A1	PCI_SLOT_TRST#	B1	-12V
A2	+12V	B2	PCI_SLOT_TCK
A3	PCI_SLOT_TMS	B3	GND
A4	PCI_SLOT_TDI	B4	NC
A5	VCC5	B5	VCC5
A6	PCI_SLOT_IRQ#0	B6	VCC5
A7	PCI_SLOT_IRQ#2	B7	PCI_SLOT_IRQ#1
A8	VCC5	B8	PCI_SLOT_IRQ#3
A9	PCI_SLOT_RSV1	B9	PCI_SLOT_PRSNT1#
A10	VCC5	B10	PCI_SLOT_RSV5
A11	PCI_SLOT_RSV2	B11	PCI_SLOT_PRSNT2#
A12	GND	B12	GND
A13	GND	B13	GND
A14	3VSB	B14	PCI_CLK1
A15	PCI_SLOT_RST#	B15	GND
A16	VCC5	B16	PCI_CLK0
A17	PCI_GNT#0	B17	GND

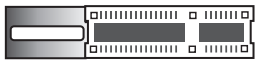
Pin	Definition	Pin	Definition
A18	GND	B18	PCI_SLOT_REQ#0
A19	PCI_SLOT_PME#	B19	VCC5
A20	PCI_AD30	B20	PCI_AD31
A21	VCC3	B21	PCI_AD29
A22	PCI_AD28	B22	GND
A23	PCI_AD26	B23	PCI_AD27
A24	GND	B24	PCI_AD25
A25	PCI_AD24	B25	VCC3
A26	PCI_SLOT_IDSEL	B26	PCI_CBE#3
A27	VCC3	B27	PCI_AD23
A28	PCI_AD22	B28	GND
A29	PCI_AD20	B29	PCI_AD21
A30	GND	B30	PCI_AD19
A31	PCI_AD18	B31	VCC3
A32	PCI_AD16	B32	PCI_AD17
A33	VCC3	B33	PCI_CBE#2
A34	PCI_FRAME#	B34	GND
A35	GND	B35	PCI_IRDY#
A36	PCI_TRDY#	B36	VCC3
A37	GND	B37	PCI_DEVSEL#
A38	PCI_STOP#	B38	GND
A39	VCC3	B39	PCI_LOCK#
A40	SMBCLK_PCI	B40	PCI_PERR#
A41	SMBDATA_PCI	B41	VCC3
A42	GND	B42	PCI_SERR#

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Pin	Definition	Pin	Definition
A43	PCI_PAR	B43	VCC3
A44	PCI_AD15	B44	PCI_CBE#1
A45	VCC3	B45	PCI_AD14
A46	PCI_AD13	B46	GND
A47	PCI_AD11	B47	PCI_AD12
A48	GND	B48	PCI_AD10
A49	PCI_AD9	B49	GND
A52	PCI_CBE#0	B52	PCI_AD8
A53	VCC3	B53	PCI_AD7
A54	PCI_AD6	B54	VCC3
A55	PCI_AD4	B55	PCI_AD5
A56	GND	B56	PCI_AD3
A57	PCI_AD2	B57	GND
A58	PCI_AD0	B58	PCI_AD1
A59	VCC5	B59	VCC5
A60	PU1_REQ64#	B60	PU1_ACK64#
A61	VCC5	B61	VCC5
A62	VCC5	B62	VCC5

PCIe x1 Slot

Connector size: PCIe x1
Connector location: CON2



Pin	Definition	Pin	Definition
A1	PRSNT1#	B1	+12V
A2	+12V	B2	+12V
A3	+12V	B3	+12V
A4	GND	B4	GND
A5	NC	B5	SMB_CLK
A6	NC	B6	SMB_DATA
A7	NC	B7	GND
A8	NC	B8	VCC3
A9	VCC3	B9	NC
A10	VCC3	B10	3VSB
A11	PERST#	B11	WAKE#
A12	GND	B12	NC
A13	PCIE_CLK_P	B13	GND
A14	PCIE_CLK_N	B14	TXP3
A15	GND	B15	TXN3
A16	RXP3	B16	GND
A17	RXN3	B17	NC
A18	GND	B18	GND

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COM4 RI Pin Header

Connector size: 1x5 (2.0mm -M-180)
Connector location: J10

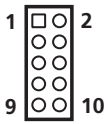


Pin	Definition
1	VCC5
2	COM4_RI_T
3	+12V
4	COM4_RI_T
5	COM4_RI

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GPIO Connector

Connector size: 10-pin header, 2x5 (2.0mm -M-180)
Connector location: JP3



Pin	Definition	Pin	Definition
1	VCC5	2	GND
3	GPO1	4	GPI1
5	GPO2	6	GPI2
7	GPO3	8	GPI3
9	GPO4	10	GPI4

GPIO LED Connector

Connector size: 2x2 (2.0mm -M-180)
Connector location: JP2

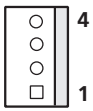


Pin	Definition
1	GPO_LED0
2	GND
3	GPO_LED1
4	GND

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Smart Fan1 Connector

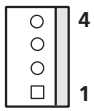
Connector size: 4-pin Wafer, 2.54mm-M-180
Connector location: J13



Pin	Definition
1	GND
2	+12V
3	CPUFANIN
4	CPUFANOUT

Smart Fan2 Connector

Connector size: 4-pin Wafer, 2.54mm-M-180
Connector location: J1



Pin	Definition
1	GND
2	+12V
3	SYSFANIN
4	SYSFANOUT

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Power Push Button

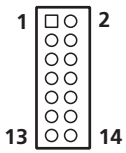
Connector location: SW1



Pin	Definition
1	GND
2	PWRBT
3	PWRBT
4	GND
A1	PWRLED
C1	PWRLED
MH1	NC
MH2	NC

External LED Pin Header

Connector size: 2x7 (2.54mm -M-180)
Connector location: J8

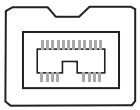


Pin	Description	Pin	Description
1	LED_PWRN	2	LED_PWRP
3	HD_LEDN	4	LED_HDDP
5	LAN1_LINK#	6	LAN1_LINKP
7	LAN1_LED_ACT#	8	LAN1_ACTP
9	LAN2_LINK#	10	LAN2_LINKP
11	LAN2_LED_ACT#	12	LAN2_ACTP
13	NC	14	NC

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IEEE1394B-1 Connector (only on NISE 3140M / NISE 3144 series)

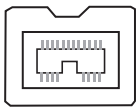
Connector size: 1394
Connector location: J12



Pin	Description	Pin	Description
1	1394B_TB0C_N	2	1394B_TB0C_P
3	1394B_TA0C_N	4	1394B_TA0C_P
5	1394B_SG_0	6	GND
7	NC	8	BUS_PWR
9	GND		

IEEE1394B-2 Connector (only on NISE 3140M / NISE 3144 series)

Connector size: 1394
Connector location: J11



Pin	Description	Pin	Description
1	1394B_TB1C_N	2	1394B_TB1C_P
3	1394B_TA1C_N	4	1394B_TA1C_P
5	1394B_SG_1	6	GND
7	NC	8	BUS_PWR
9	GND		

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Chapter 3: System Setup

Removing the Chassis Cover



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

1. The screws on the cover are used to secure the cover to the chassis.



2. Remove these screws and put them in a safe place for later use.

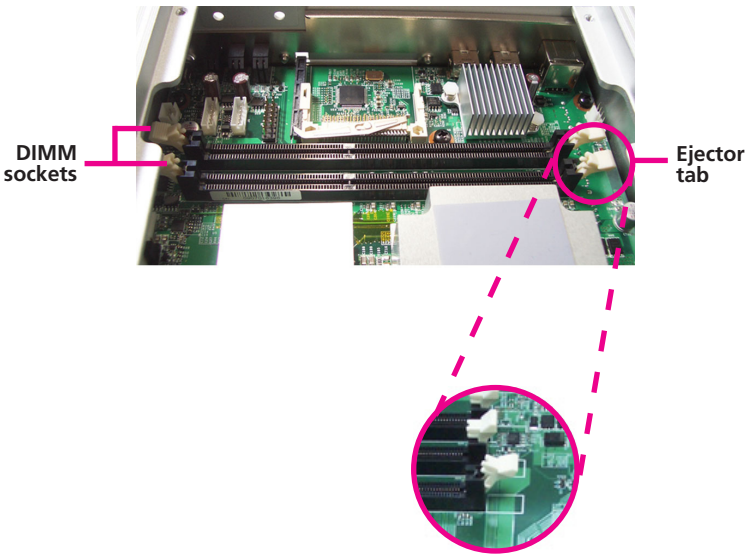


3. Lift up the cover then remove it from the chassis.

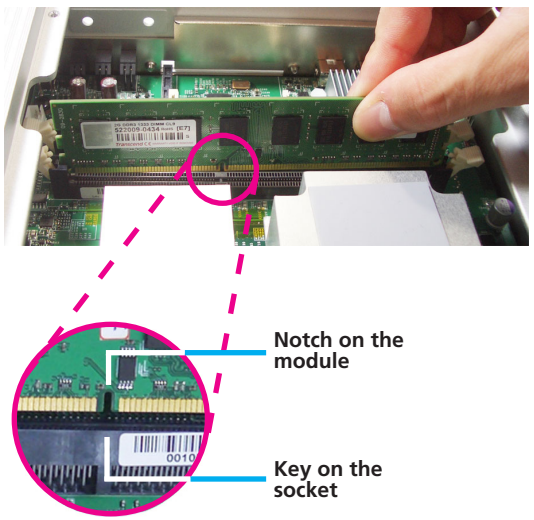
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Installing a DIMM

1. Push the ejector tabs which are at the ends of the socket outward. This indicates that the socket is unlocked.



2. Note how the module is keyed to the socket. Grasping the module by its edges, align the module with the socket so that the "notch" on the module is aligned with the "key" on the socket. The key ensures the module can be plugged into the socket in only one direction.



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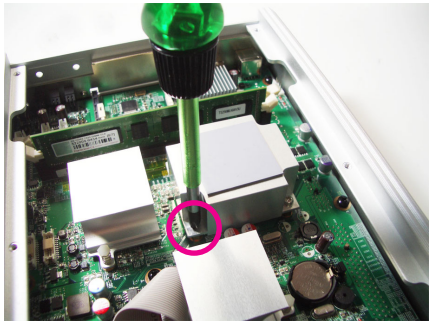
3. Seat the module vertically, pressing it down firmly until it is completely seated in the socket. The ejector tabs at the ends of the socket will automatically snap into the locked position to hold the module in place.



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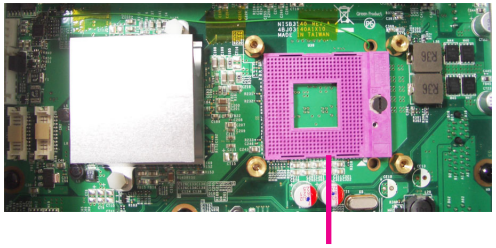
Installing the CPU

1. Loosen the mounting screws that secure the heat sink to the chassis.



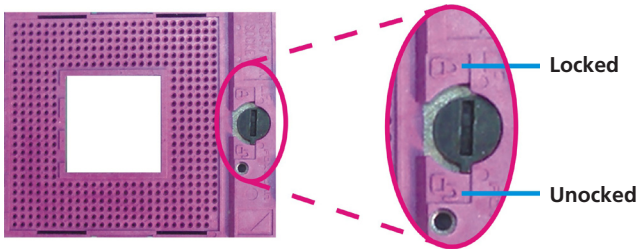
- Make sure all power cables are unplugged before you install the CPU.
- The CPU socket must not come in contact with anything other than the CPU. Avoid unnecessary exposure.

2. The CPU socket is readily accessible after you have removed the heat sink.

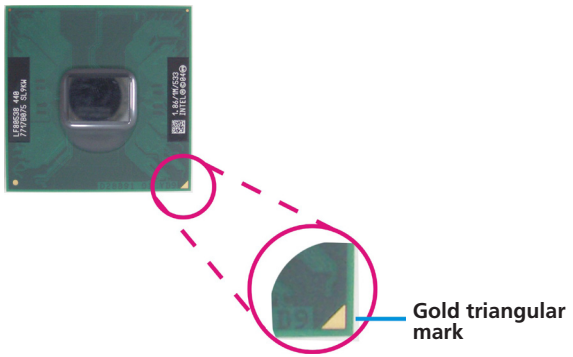


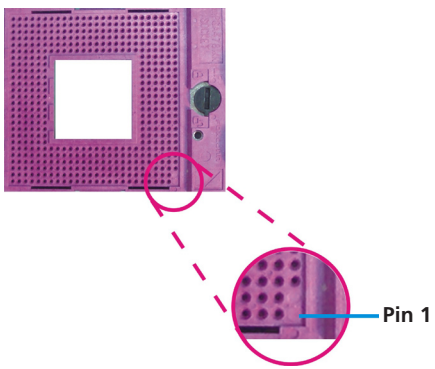
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3. Use a screwdriver to turn the screw to its unlocked position.



4. Position the CPU above the socket. The gold triangular mark on the CPU must align with pin 1 of the CPU socket.

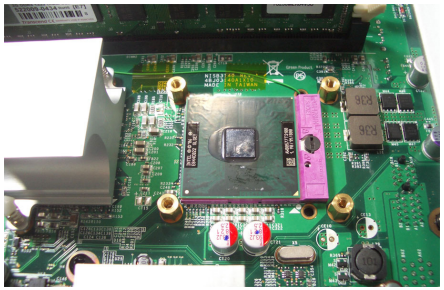




Handle the CPU by its edges and avoid touching the pins.

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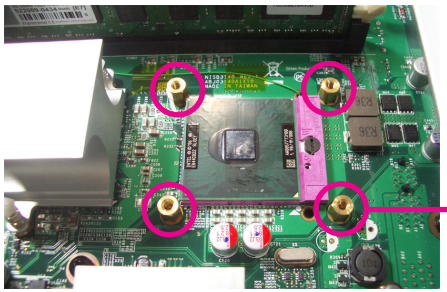
5. Insert the CPU into the socket until it is seated in place. The CPU will fit in only one orientation and can easily be inserted without exerting any force. Use a screwdriver to turn the screw to its locked position.

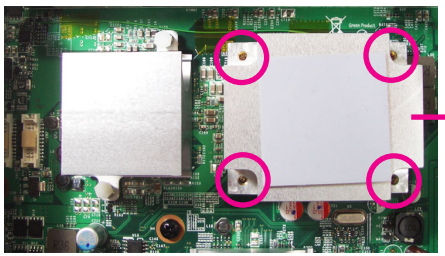


Do not force the CPU into the socket. Forcing the CPU into the socket may bend the pins and damage the CPU.

6. Before you install the heat sink, apply thermal paste onto the top of the CPU. Do not spread the paste all over the surface. When you later place the heat sink on top of the CPU, the compound will disperse evenly.

7. Align the mounting holes of the heat sink with the mounting nuts on the board then secure the heat sink with the screws you removed earlier.

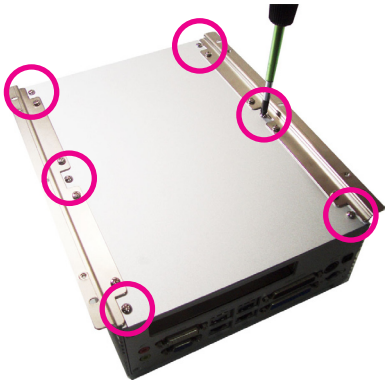




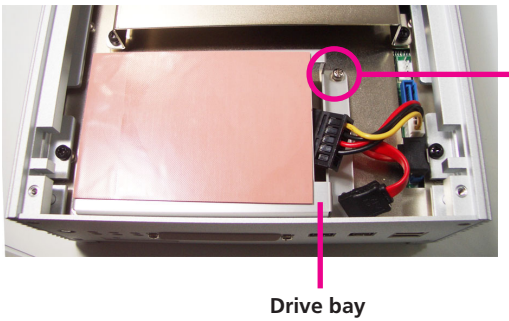
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Installing a SATA Hard Drive

1. With the bottom side of the chassis facing up, remove the screws of the bottom cover.



2. Remove the 4 mounting screws that secure the drive bay to the chassis then remove the drive bay. The drive bay is used to hold a SATA hard drive.



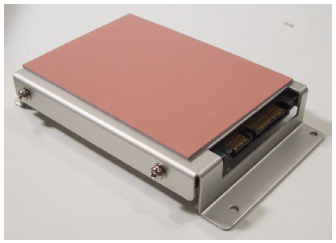
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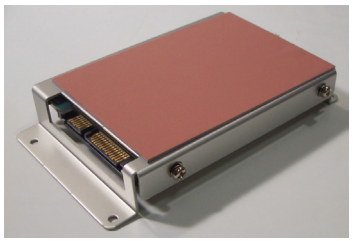
3. Place the SATA hard drive on the drive bay. Make sure the connector side of the SATA drive is facing the opening of the drive bay.



Connector side of the SATA drive

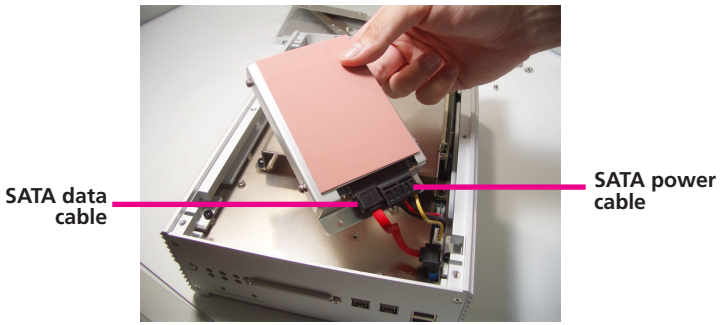
4. Align the mounting holes that are on the sides of the SATA drive with the mounting holes on the drive bay then use the provided mounting screws to secure the drive in place.



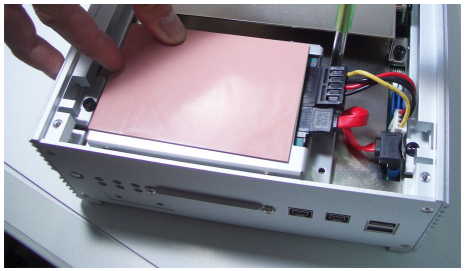


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5. Connect the SATA data cable and SATA power cable to the connectors on the SATA drive.



6. Secure the drive into the chassis.



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Chapter 4: BIOS Setup

This chapter describes how to use the BIOS setup program for NISE 3140 Series. The BIOS screens 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 intimately 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.

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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:

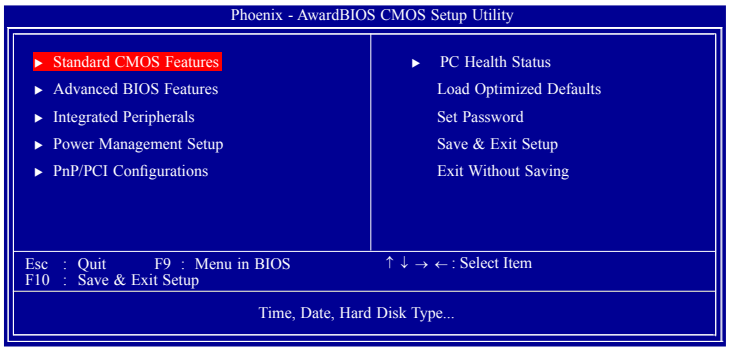
- If the error occurs before the display device is initialized, a series of beeps will be transmitted.
- If the error occurs after the display device is initialized, the screen will display the error message.

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:

BIOS Main Menu

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



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The following table lists the available options on the main menu.

Menu	Description
Standard CMOS Features	Use this menu for basic system configuration.
Advanced BIOS Features	Use this menu to set the advanced features available on the system.
Integrated Peripherals	Use this menu to specify your settings for integrated peripherals.
Power Management Setup	Use this menu to specify your settings for power management.
PnP/PCI Configurations	Appears if your system supports Plug and Play and PCI Configuration.
PC Health Status	Displays CPU, System Temperature, Fan Speed, and System Voltages Value.
Load Optimized Defaults	Use this menu to load the BIOS default values, that is, factory settings for optimum system performance. While Award has designed the custom BIOS to maximize performance, the factory has the option to change these defaults to meet their needs.
Set Password	Enables you to change, set, or disable the supervisor or user password.
Save & Exit Setup	Saves CMOS value changes to CMOS and exits setup
Exit Without Saving	Ignores all CMOS value changes and exits setup.

Getting Help

The BIOS Setup program provides descriptions of the options available on the menu.

- If you are on the main menu, a description of the highlighted option can be found at the bottom of the screen.
- If you are on the Status Page or Option Page setup menu, a description of the highlighted option can be found on the right side of the screen under the heading Item Help.

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Using the Control Keys

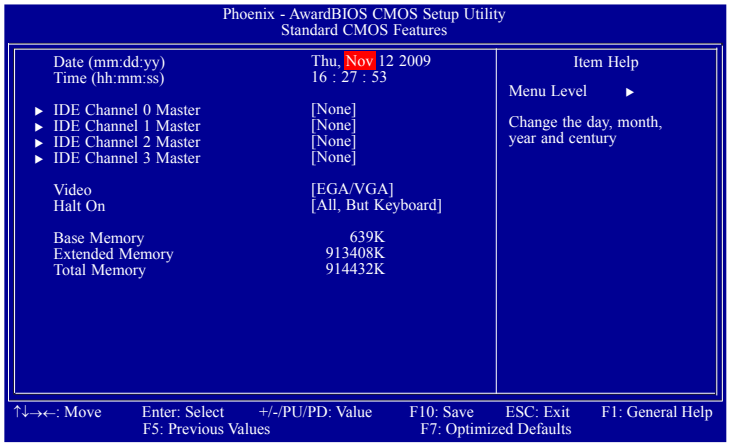
The table below lists the keys that help you navigate the setup program.

Use This Key	To Do This
Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item to the left
Right arrow	Move to the item to the right
Esc key	Main Menu: Quit without saving changes to CMOS Status Option Page Setup Menus: Exit current page and return to Main Menu.
Enter Key	Select or Accept an Item
PgUp/plus key	Increase the numeric value or make changes
PgDn/minus key	Decrease the numeric value or make changes
F1 key	General help, only for Status Page Setup Menu and Option Page Setup Menu
F2/Shift + F2 key	Change color from total 16 colors. F2 to select color forward, (Shift) F2 to select color backward
F5 key	Restore the previous CMOS value from CMOS (only for Option Page Setup Menu)
F6 key	Load the default CMOS value from BIOS default table (only for Option Page Setup Menu)
F7 key	Load the Setup default value (only for Option Page Setup Menu)
F9 Key	Menu in BIOS
F10 key	Save all the CMOS changes (only for Main Menu)

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BIOS Setup Utility

Standard CMOS Features



Date

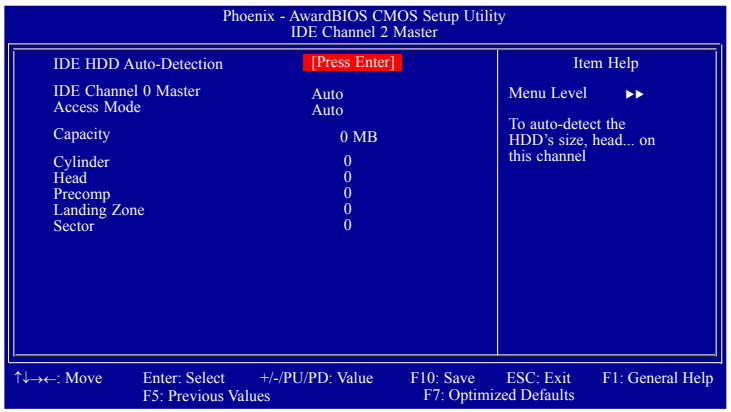
The date format is <day>, <month>, <date>, <year>. Day displays a day, from Sunday to Saturday. Month displays the month, from January to December. Date displays the date, from 1 to 31. Year displays the year, from 1999 to 2099.

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.

IDE Channel 0 Master and IDE Channel 3 Master

To configure the IDE drives, move the cursor to a field then press <Enter>. The following screen will appear.



IDE HDD Auto-Detection

Detects the parameters of the drive. The parameters will automatically be shown on the screen.

IDE Channel 0 Master / IDE Channel 0 Slave

If you select "Auto", the BIOS will auto-detect the HDD & CD-ROM drive at the POST stage and show the IDE for the HDD & CD-ROM drive. If a hard disk has not been installed, select "None".

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Access Mode

For hard drives larger than 528MB, you would typically select the LBA type. Certain operating systems require that you select CHS or Large. Please check your operating system's manual or Help desk on which one to select.

Capacity

Displays the approximate capacity of the disk drive. Usually the size is slightly greater than the size of a formatted disk given by a disk checking program.

Cylinder

This field displays the number of cylinders.

Head

This field displays the number of read/write heads.

Precomp

This field displays the number of cylinders at which to change the write timing.

Landing Zone

This field displays the number of cylinders specified as the landing zone for the read/write heads.

Sector

This field displays the number sectors per track.

Video

This field selects the type of video adapter used for the primary system monitor. Although secondary monitors are supported, you do not have to select the type. The default setting is EGA/VGA.

EGA/VGA
Enhanced Graphics Adapter/Video Graphics Array. For EGA, VGA, SVGA and PGA monitor adapters.

CGA 40
Color Graphics Adapter. Power up in 40-column mode.

CGA 80
Color Graphics Adapter. Power up in 80-column mode.

Mono
Monochrome adapter. Includes high resolution monochrome adapters.

Halt On

This field determines whether the system will stop if an error is detected during power up. The default setting is All Errors.

No Errors
The system boot will not stop for any errors detected.

All Errors
The system boot will stop whenever the BIOS detects a non-fatal error.

All, But Keyboard
The system boot will not stop for a keyboard error; it will stop for all other errors.

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Base Memory

Displays the amount of base (or conventional) memory installed in the system. The value of the base memory is typically 512K for systems with 512K memory installed on the motherboard or 640K for systems with 640K or more memory installed on the motherboard.

Extended Memory

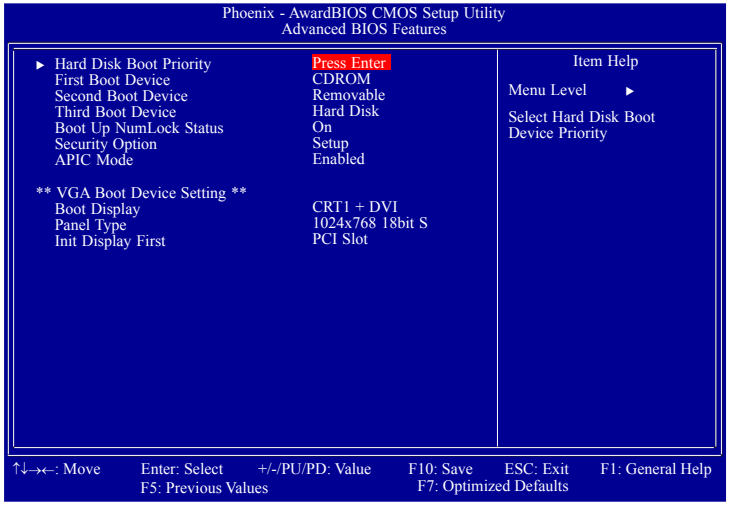
Displays the amount of extended memory detected during boot-up.

Total Memory

Displays the total memory available in the system.

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Advanced BIOS Features



Hard Disk Boot Priority

This field is used to select the boot sequence of the hard drives. Move the cursor to this field then press <Enter>. Use the Up or Down arrow keys to select a device then press <+> to move it up or <-> to move it down the list.

First Boot Device, Second Boot Device and Third Boot Device

Select the drive to boot first, second and third in the "First Boot Device" "Second Boot Device" and "Third Boot Device" fields respectively. The BIOS will boot the operating system according to the sequence of the drive selected.

The options are:

Hard Disk
CDROM
USB-FDD
USB-ZIP
USB-CDROM
LAN
Disabled

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Boot Up NumLock Status

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.

Security Option

This field determines when the system will prompt for the password - everytime the system boots or only when you enter the BIOS setup. Set the password in the Set Supervisor/User Password submenu.

System
The system will not boot and access to Setup will be denied unless the correct password is entered at the prompt.

Setup
The system will boot, but access to Setup will be denied unless the correct password is entered at the prompt.

APIC Mode

This field is used to enable or disable the APIC mode.

Boot Display

This field is used to select the type of display to use when the system boots.

CRT1
LFP
CRT1 + LFP
CRT2
CRT1 + CRT2
DVI
CRT1+DVI

Panel Type

This field is used to select the type of panel that you are using. The options are:

640x480 18bit S
800x600 18bit S
1024x768 18bit S
1280x1024 18bit D
1400x1050 18bit D
1280x800 24bit D

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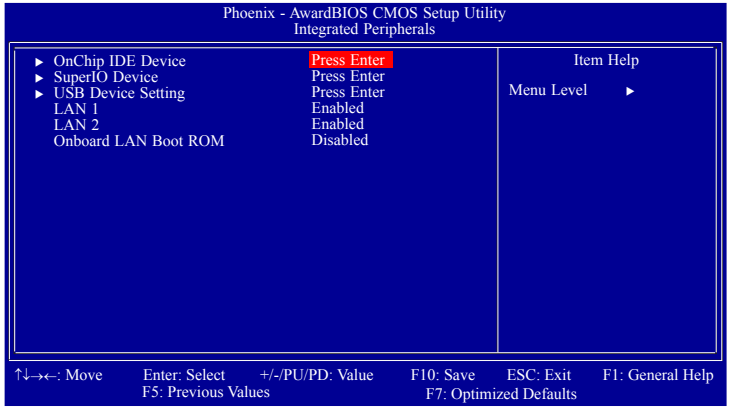
Init Display First

Onboard
When the system boots, it will first initialize the onboard VGA.

PCI Slot
When the system boots, it will first initialize PCI.

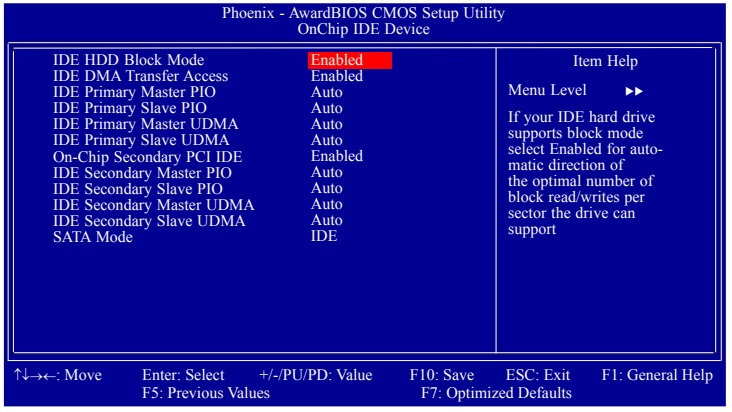
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Integrated Peripherals



OnChip IDE Device

Move the cursor to this field and press <Enter>. The following screen will appear.



IDE HDD Block Mode

Enabled
The IDE HDD uses the block mode. The system BIOS will check the hard disk drive for the maximum block size the system can transfer. The block size will depend on the type of hard disk drive.

Disabled
The IDE HDD uses the standard mode.

IDE DMA Transfer Access

This field, when Enabled, will enhance the IDE DMA transfer of an IDE hard disk drive.

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IDE Primary Master/Slave PIO and IDE Secondary Master/Slave PIO

PIO means Programmed Input/Output. Rather than have the BIOS issue a series of commands to effect a transfer to or from the disk drive, PIO allows the BIOS to tell the controller what it wants and then let the controller and the CPU perform the complete task by themselves. Your system supports five modes, 0 (default) to 4, which primarily differ in timing. When Auto is selected, the BIOS will select the best available mode after checking your drive.

Auto
The BIOS will automatically set the system according to your hard disk drive's timing.

Mode 0-4
You can select a mode that matches your hard disk drive's timing. Caution: Do not use the wrong setting or you will have drive errors.

IDE Primary Master/Slave UDMA and IDE Secondary Master/Slave UDMA

These fields allow you to set the Ultra DMA in use. When Auto is selected, the BIOS will select the best available option after checking your hard drive or CD-ROM.

Auto
The BIOS will automatically detect the settings for you.

Disabled
The BIOS will not detect these categories.

SATA Mode

IDE
This option configures the Serial ATA drives as Parallel ATA storage devices.

RAID (Only on NISE 3140M / NISE 3144 series)
This option allows you to create RAID or Intel Matrix Storage configuration on Serial ATA devices.

AHCI
This option allows the Serial ATA devices to use AHCI (Advanced Host Controller Interface).

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SuperIO Device

This field is used to configure the I/O devices installed in the system.

USB Device Setting

This field is used to configure the USB devices installed in the system.

LAN 1 and LAN 2

These fields are used to enable or disable the onboard LAN.

Onboard LAN Boot ROM

Enable this field if you wish to use the boot ROM (instead of a disk drive) to boot-up the system and access the local area network directly.

If you wish to change the boot ROM's settings, type the <Shift> and <F10> keys simultaneously when prompted during boot-up. Take note: you will be able to access the boot ROM's program (by typing <Shift> + <F10>) only when this field is enabled.

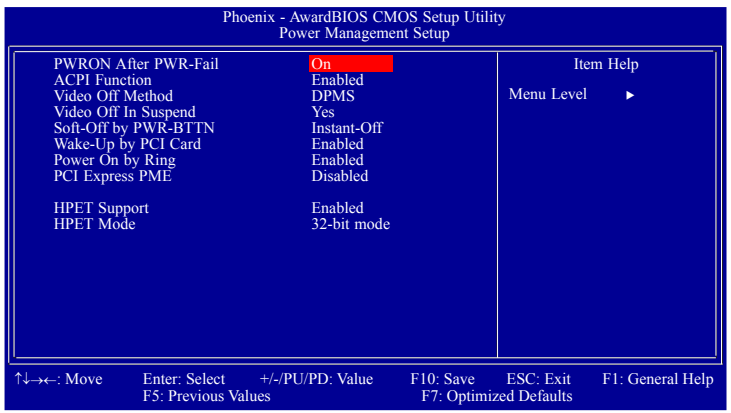
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Power Management Setup

Power Management Setup lets you control the system power. The system has various power-saving modes — including powering down the hard disk, turning off the video, suspending to RAM, and software power down — that allows the system to automatically resume by certain events.

The power-saving modes can be controlled by timeouts. If the system is inactive for a time, the timeouts begin counting. If inactivity continues and reaches the defined timeout period, the system enters a power saving mode. If any item in the list of Reload Global Timer Events is enabled, then any activity on that item will reset the timeout counters to zero.

If the system is suspended or has been powered down by software, it can be resumed by a wake up call that is generated by incoming traffic to a modem, a LAN card, a PCI card, or a fixed alarm on the system real-time clock.



PWRON After PWR-Fail

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.

On
When power returns after an AC power failure, the system will automatically power-on.

Former-Sts
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.

ACPI Function

By default, the ACPI function is enabled. This function should be enabled only in operating systems that support ACPI.

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Video Off Method

This determines the manner in which the monitor is blanked.

V/H SYNC + Blank
This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.

Blank Screen
This option only writes blanks to the video buffer.

DPMS Support
Initializes display power management signaling. Use this option if your video board supports it.

Video Off In Suspend

This field is used to activate the video off feature when the system enters the Suspend mode. The options are Yes and No.

Soft-Off by PWR-BTTN

This field allows you to select the method of powering off your system.

Delay 4 Sec.
Regardless of whether the Power Management function is enabled or disabled, if the power button is pushed and released in less than 4 sec, the system enters the Suspend mode. The purpose of this function is to prevent the system from powering off in case you accidentally "hit" or pushed the power button. Push and release again in less than 4 sec to restore. Pushing the power button for more than 4 seconds will power off the system.

Instant-Off
Pressing and then releasing the power button at once will immediately power off your system.

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Wake-Up by PCI Card

Enabled
This field should be set to Enabled only if your PCI card such as LAN card or modem card uses the PCI PME (Power Management Event) signal to remotely wake up the system. Access to the LAN card or PCI card will cause the system to wake up. Refer to the card's documentation for more information.

Disabled
The system will not wake up despite access to the PCI card.

Power On By Ring

Set this field to Enabled to use the modem ring-on function. This will allow your system to power-on to respond to calls coming from an external modem.

PCI Express PME

This field is used to configure the PCI Express PME.

HPET Support

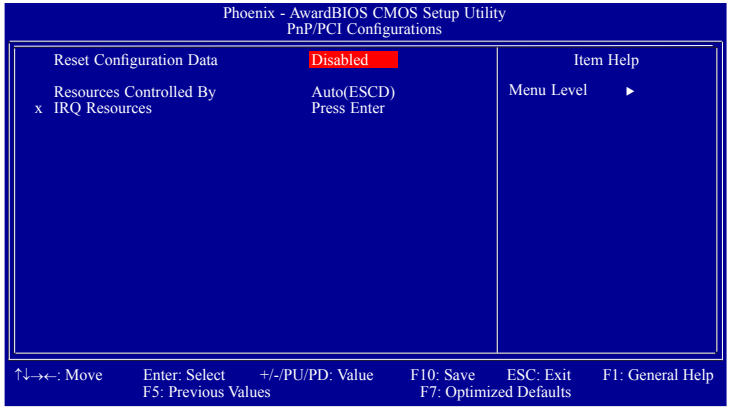
This field is used to enable or disable HPET.

HPET Mode

The options are 32-bit mode and 64-bit mode.

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PnP/PCI Configurations



Reset Configuration Data

Enabled
The BIOS will automatically reset the Extended System Configuration Data (ESCD) once. It will then recreate a new set of configuration data.

Disabled
The BIOS will not reset the configuration data.

Resources Controlled By

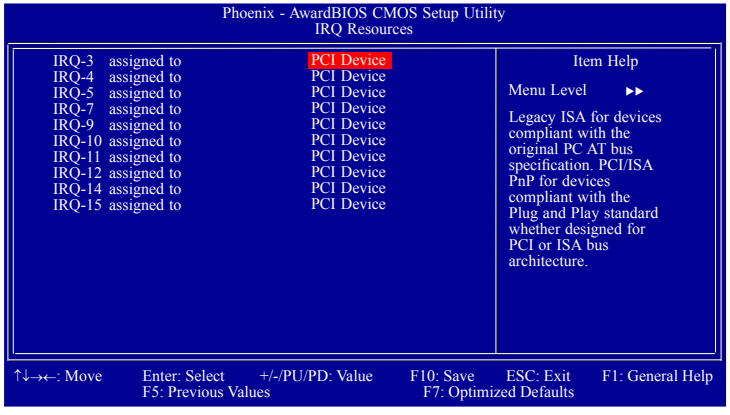
The Award Plug and Play BIOS has the capability to automatically configure all of the boot and Plug and Play compatible devices.

Auto(ESCD)
The system will automatically detect the settings for you.

Manual
Choose the specific IRQ resources in the "IRQ Resources" field.

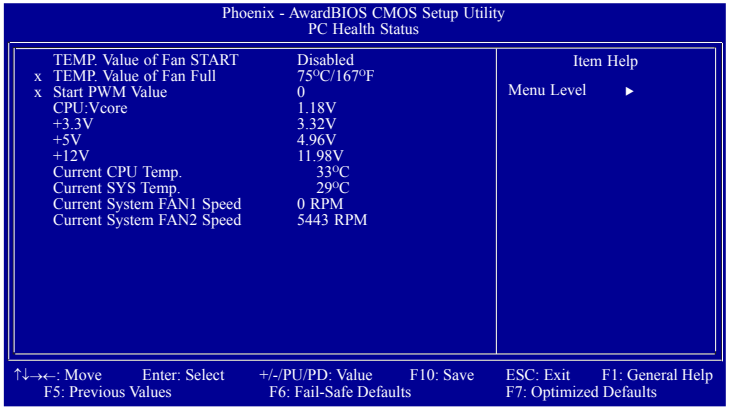
IRQ Resources

Set each system interrupt to either PCI Device or Reserved.



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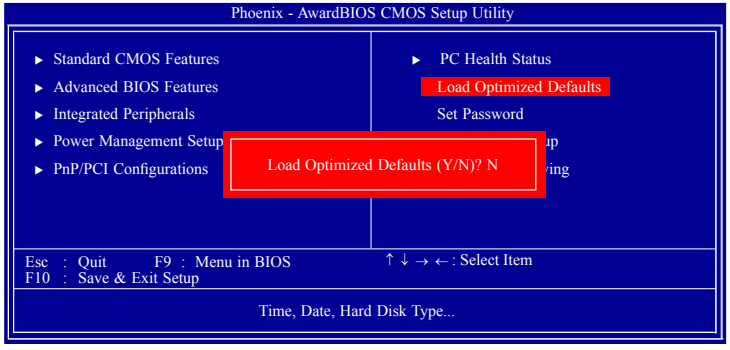
PC Health Status



CPU:Vcore to Current System FAN2 Speed

These fields will show the output voltage, temperature and fan speed of the monitored devices or components.

Load Optimized Defaults

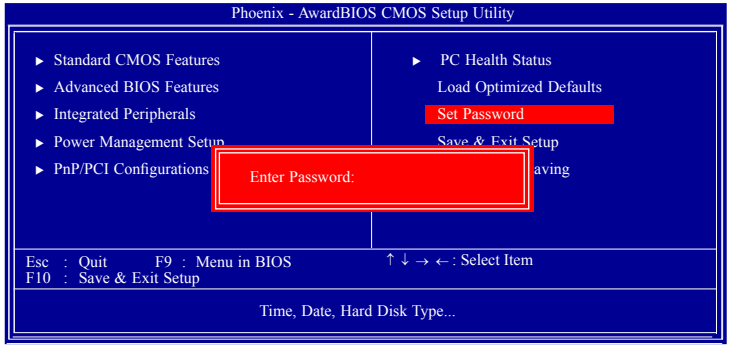


This option opens a dialog box that lets you install optimized defaults for all appropriate items in the whole setup utility. Press the <Y> key and then <Enter> to install the defaults. Press the <N> key and then <Enter> if you do not want to install the defaults. The optimized defaults place demands on the system that may be greater than the performance level of the components, such as the CPU and the memory.

Fatal errors or instability may occur if you install the optimized defaults when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option, and then press the <F7> key.

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Set Password

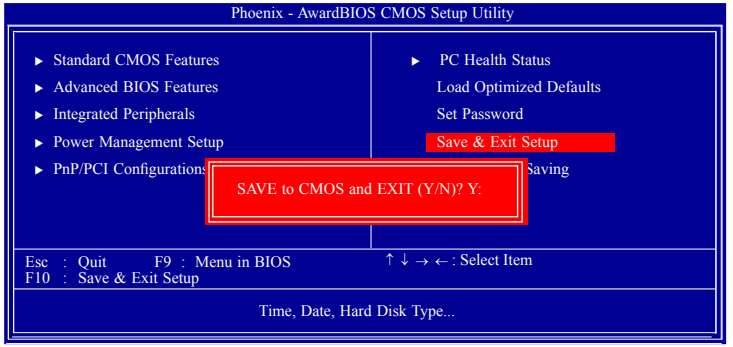


The User Password utility sets the password. The main board is shipped with the password disabled. If you want to change the password, you must first enter the current password, then at the prompt enter your new password. The password is case sensitive. You can use up to eight alpha-numeric characters. Press <Enter> after entering the password. At the next prompt, confirm the new password by retyping it and pressing <Enter> again.

To disable the password function, highlight "Set Password" then press <Enter>, instead of typing in a new password. A message appears confirming that the password has been disabled. If you have set supervisor and user Password, only the supervisor password allows you to enter the BIOS setup program.

Note: If you forgot your password, the only way to solve this problem is to discharge the CMOS memory by turning power off and placing a shunt (jumper cap) on the RTC Clear jumper to short pin 2 and pin 3 for five seconds, then putting the shunt back to pin 1 and pin 2.

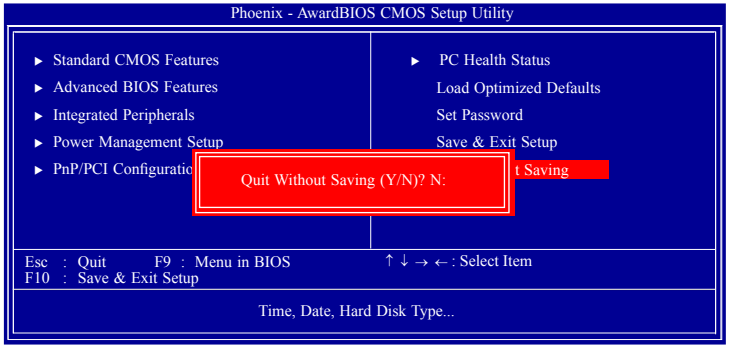
Save & Exit Setup



Selecting this option and pressing <Enter> will save the new setting information in the CMOS memory and continue with the bootup process.

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Exit Without Saving



Selecting this option and pressing <Enter> will exit the Setup utility without recording any new values or changing old ones.

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Appendix A: Power Consumption

Test Configuration

System Configuration	Sys#1	Sys#2
Chassis	CHASSIS NISE3140	CHASSIS NISE3140
CPU	CPU Celeron M575 2G/1MB/667MHz(31W)	CPU Core 2 Duo(Mobile)(P8600) 2.4G/3MB/1066MHz(25W)
Memory	Transcend DDR3 1066 2Gx2	Transcend DDR3 1066 2Gx2
HDD	HTS23225L9A360 250GB	HTS23225L9A360 250GB
FDD	N/A	N/A
CD-ROM	N/A	N/A
Compact Flash device	PQI 4GB	PQI 4GB
Power Supply	POWER ADAPTER SPI:G.P FSP120-AAB(N091)	POWER ADAPTER SPI:G.P FSP120-AAB(N091)
Add-on Card	N/A	N/A
CPU Cooler	NISE3140 HEATSINK	NISE3140 HEATSINK
System Fan	N/A	N/A
Keyboard	LEMEL B-5201-P	LEMEL B-5201-P
Mouse	GENIVS EASY MOUSE PS/2	GENIVS EASY MOUSE PS/2

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Power Consumption Measurement

Purpose

The purpose of the power consumption test is to verify the power dissipation of the system and the load of the power supply.

Test Equipment

PROVA CM-07 AC/DC CLAMP METER

Device Under Test

DUT: Sys #1 / Sys #2

Test Procedure

1. Power up the DUT then boot Windows XP.
2. Enter the standby mode (HDD power down).
3. Measure the power consumption and record it.
4. Run the Burn-in test program to apply 100% full loading.
5. Measure the power consumption and record it.

Test Data

	Sys #1	Sys #2
	+24V	+24V
Full-Loading Mode	1.85A	2.35A
Total	43.2W	56.4W
Standby Mode	0.8A	0.78A
Total	19.2W	18.72W

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Appendix B: GPI/O Programming Guide

NISB3140 GPIO

PIN	Description	PIN	Description
1	+5V	2	GND
3	GPO54	4	GPI50
5	GPO55	6	GPI51
7	GPO56	8	GPI52
9	GPO57	10	GPI53

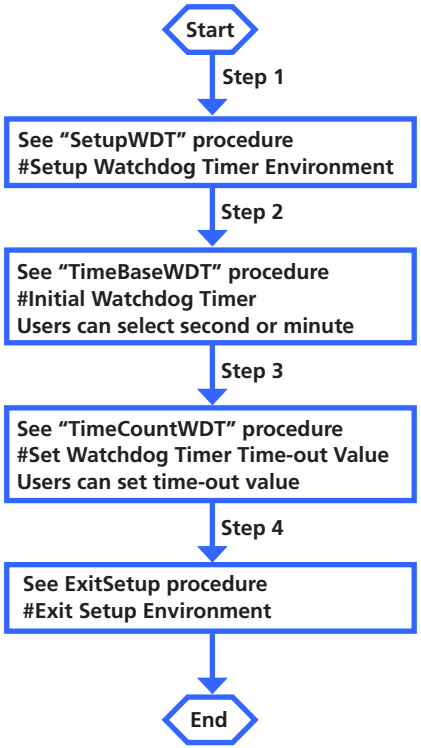
IO base address : 800h

Bit0 : GPI50
Bit1 : GP I51
Bit2 : GP I52
Bit3 : GP I53
Bit4 : GPO54
Bit5 : GPO55
Bit6 : GPO56
Bit7 : GPO57

1. Read/Write GPIO data by I/O port 804h

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Appendix C: Watchdog Timer Setting



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```
;----------------------------------------------
SetupWDT        PROC
        mov     dx, 2eh
        mov     al, 087h
        out     dx, al
        nop
        nop
        mov     al, 01h
        out     dx, al
        nop
        nop
        mov     al, 55h
        out     dx, al
        nop
        nop
        out     dx, al              ;Write operations to special address port
(2E) for entering MB PnP Mode.

        mov     al, 07h
        out     2eh, al
        mov     al, 08h     ;Select logical device for Watch Dog.
        out     2fh, al
        ret
SetupWDT        ENDP

;----------------------------------------------
TimeBaseWDT             PROC
        mov     al, 72h
        out     2eh, al
        mov     al, 40h     ;Set WDT reset upon KBRST#
        or      al, 00h     ;Here!! set 00h for second, set 80h for minute
        out     2fh, al
        ret
TimeBaseWDT     ENDP

;----------------------------------------------
TimeCountWDT    PROC
        mov     al, 73h     ;WDT Time-out register.
        out     2eh, al
        mov     al, 03h     ;Here!! Set count 3.
        out     2fh, al
        ret
TimeCountWDT    ENDP

;----------------------------------------------
ExitSetup PROC
        mov     dx, 2eh
        mov     al, 0AAh
        out     dx, al
ExitSetup ENDP
;----------------------------------------------
```


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Appendix D: RAID Configuration *(only on NISE 3140M / NISE 3144 Series)*

The NISE 3140M / NISE 3144 Series attached with FAN models supports RAID 0 and RAID 1.

RAID Levels

RAID 0 (Striped Disk Array without Fault Tolerance)

RAID 0 uses two new identical hard disk drives to read and write data in parallel, interleaved stacks. Data is divided into stripes and each stripe is written alternately between two disk drives. This improves the I/O performance of the drives at different channel; however it is not fault tolerant. A failed disk will result in data loss in the disk array.

RAID 1 (Mirroring Disk Array with Fault Tolerance)

RAID 1 copies and maintains an identical image of the data from one drive to the other drive. If a drive fails to function, the disk array management software directs all applications to the other drive since it contains a complete copy of the drive's data. This enhances data protection and increases fault tolerance to the entire system. Use two new drives or an existing drive and a new drive but the size of the new drive must be the same or larger than the existing drive.

Configuration

To enable the RAID function, the following configurations are required.

1. Connect the Serial ATA drives.
2. Configure Serial ATA in the Award BIOS.
3. Configure RAID in the RAID BIOS.

Step 1: Connect the Serial ATA Drives

Refer to "Installing a SATA Hard Drive" in chapter 3 for details on connecting the Serial ATA drives.

Make sure you have installed the Serial ATA drives and connected the data cables otherwise you won't be able to enter the RAID BIOS utility.

Treat the cables with extreme caution especially while creating RAID. A damaged cable will ruin the entire installation process and operating system. The system will not boot and you will lost all data in the hard drives.

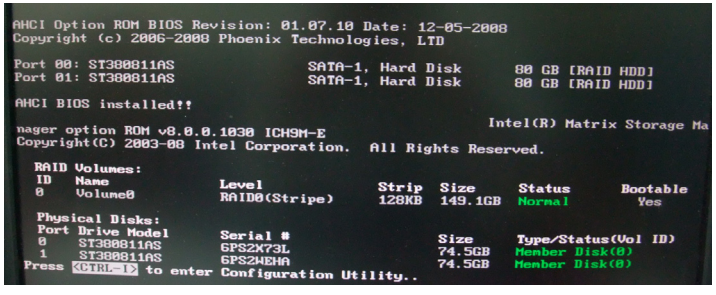
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Step 2: Configure Serial ATA in the Award BIOS

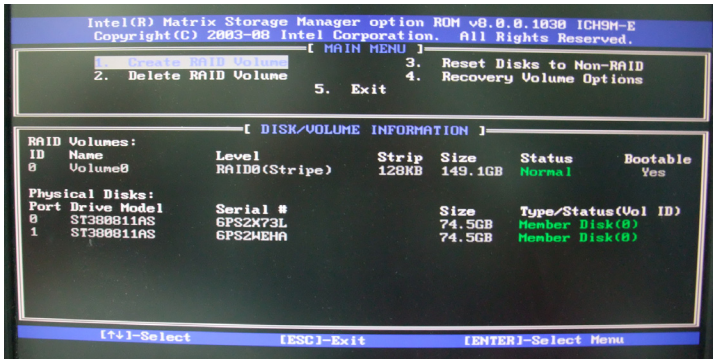
1. Power-on the system then press <Del> to enter the main menu of the Award BIOS.
2. Select Integrated Peripherals menu then OnChip IDE Device submenu.
3. In the "SATA Mode" field, select "RAID".
4. Press <Esc> to return to the main menu of the BIOS setup utility. Select "Save & Exit Setup" and then press <Enter>.
5. Type <Y> and press <Enter>.
6. Reboot the system.

Step 3: Configure RAID in the RAID BIOS

1. When the system powers-up and all drives have been detected, the Intel RAID BIOS status message screen will appear. Press the <Ctrl> and <I> keys simultaneously to enter the utility.



2. The screen below allows you to select and configure the hard drives.



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