AXIOMTEK

NA570 Series

SMB Network Appliance

User's Manual

RoHS

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CAUTION

If you replace wrong batteries, it causes the danger of explosion. It is recommended by the manufacturer that you follow the manufacturer's instructions to only replace the same or equivalent type of battery, and dispose of used ones.

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Printed in Taiwan

Safety Approvals

- CE Marking
- FCC Class A

FCC Compliance

This equipment has been tested and complies with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. If not installed and used in accordance with proper instructions, this equipment might generate or radiate radio frequency energy and cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measurers:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- Shielded interface cables must be used in order to comply with emission limits.

Safety Precautions

Before getting started, read the following important cautions.

1. Be sure to ground yourself to prevent static charge when installing the internal components. Use a grounding wrist strap and place all electronic components in any static-shielded devices. Most electronic components are sensitive to static electrical charge.

2. Disconnect the power cords from the NA570 Series before making any installation. Be sure both the system and the external devices are turned OFF. Sudden surge of power could ruin sensitive components. Make sure the NA570 Series is properly grounded.

3. Do not open the system's top cover. If opening the cover for maintenance is a must, only a trained technician is allowed to do so. Integrated circuits on computer boards are sensitive to static electricity. To avoid damaging chips from electrostatic discharge, observe the following precautions:

   - Before handling a board or integrated circuit, touch an unpainted portion of the system unit chassis for a few seconds. This will help to discharge any static electricity on your body.

   - When handling boards and components, wear a wrist-grounding strap, available from most electronic component stores.

Trademarks Acknowledgments

Table of Contents

Chapter 1 Introduction

This chapter contains general information and detailed specifications of the NA570 Series Network Appliance Server. It contains the following sections:

- General Description
- Features
- Specifications
- Dimensions and Outlines
- I/O Outlets

1.1 General Description

The NA570 is a 1U rackmount network appliance based on the 4th Generation Intel® Xeon E3/ Core i Processors with Intel® C226/H81 Chipset (Haswell), The appliance sets the target at greatly improved CPU performance and reduced power consumption based on Intel's new architecture. It provides greater performance and power efficiency to equipment providers.

The Intel® AES New Instruction (AES-NI) enhancements are included with the NA570; hardware-based acceleration to encrypt/decrypt the data. And it also support the Intel® Data Plane Development Kit (Intel® DPDK), a set of software libraries that can improve packet processing performance by up to ten times. It can achieve over 80 Mbps throughput on a single Intel® Xeon processor.

For greater flexibility, the NA570 has two front-accessible expansion slots that allow developers to expand one different LAN modules based on their solution requirements. This expansions need to be requested before production. The 2 expandable LAN modules via the PCIe 3.0 interface, supporting up to 24 GbE ports or up to 4 10GbE ports. To avoid the influences of shutdown by the environment, the NA570 supports data protection via 12 pairs of latch-type LAN bypass for fail-over option.

For storing event log data, the NA570 utilizes two 2.5" SATA HDDs or one 3.5" SATA HDD. And NA570 supports two dual channel up to 32GB DDR3-1600 non-ECC/ECC memory and one standard PCIe x8 expansion slot for optional network security card.

The NA570 is designed for network enterprise business. NA570 not only provides high performance processor, memory, storage interface and LAN connection, but also includes outstanding management capability.

1.2 Features

- LGA1150 Intel® 4th Generation processor
- Two to four DIMM sockets, up to 32GB none-buffer none-ECC / ECC memory (DDR3 1600)
- Supports Two LAN modules expansion (NA570 optional)
- Supports BIOS redirected to COM port
- Supports two 2.5" SATA HDDs or one 3.5" SATA HDD (optional)
- Suitable for VPN, network bandwidth controller, firewall applications

1.3 Specifications

System

- **System CPU**
  - Intel® 4th Generation Xeon® E3 (only NA570) / Core I processors

- **System Chipset**
  - NA570: Intel® C226 PCH
  - NA570L: Intel® H81 PCH

- **System Memory**
  - NA570: 4 x DDR3 1600 DIMM sockets, up to 32GB none-buffer none-ECC / ECC memory
  - NA570L: 2 x DDR3 1600 DIMM sockets, up to 16GB none-buffer none-ECC memory

- **BIOS**
  - AMI 64Mbit PnP Flash BIOS with function of BIOS redirected to COM port

- **HDD Interface**
  - Two 2.5" SATA HDDs or one 3.5" SATA HDD (optional)

- **LAN**
  - The default is 8 10/100/1000Mbps LAN ports and 2 pairs LAN bypass.
    NA570: Expandable up to 24 LAN ports via LAN modules and 12 pairs LAN bypass.
    NA570L: Expandable up to 16 LAN ports via LAN modules and 8 pairs LAN bypass.

- **LAN Modules**

Slim Module	Ports	Chipset	Bypass	NA570	NA552
GbE Copper Modules					
AX93316-8GI	8	Intel 82580EB	0	v	v
AX93316-8GIL	8	Intel 82580EB	4	v	v
AX93336-4GI-i210	4	Intel i210AT	2	v	v
AX93336-4GI-i350	4	Intel i350	2	v	v
GbE Fiber Modules					
AX93322-8FI	8	Intel 82580EB	0	v	v
AX93322-8MIL	4+4	Intel 82580EB	2	v	v
AX93336-4FI-i350	4	Intel i350	0	v	v
10GbE Copper Modules					
AX93317-2GIL	2	Intel X540	1	v	v
10GbE Fiber Modules					
AX93307-2FI	2	Intel 82599ES	0	v	v
AX93307-2FIL	2	Intel 82599ES	1	v	v

- **Flash**
  - One CF socket

- **Super I/O**
  - Controller: Winbond NCT6102D
  - Serial Ports: Totally 2 asynchronous ports (2 x RS-232; one is 10-pin header onboard, the other one is RJ-type connector with Cisco define)

- **I/O Interface**
  - One console RJ-type connector, 2 USB 3.0 connectors and 8 RJ-45 connectors (default) or up to 24 LAN ports (expandable).
  - LED: 1x4 LED for LAN bypass 1~4 From top to bottom (default will be 2 LED only)
  - 2 x LAN modules (optional)
  - AX98706 LED board: 1 x 4 LED for Power、HDD、GPIO1、GPIO2
  - Tact switch x2 (Left : GPIO/software reset)、(right: hardware system reset button)

- **Watchdog Timer**
  - One for System Reset: 255 levels, 1-255 sec
  - LAN Modules for LAN bypass: 7 levels, 1-64 sec

- **USB**
  - Two USB 3.0 ports one front side, two USB 2.0 are internal pin headers (NA570)

- **Hardware Monitoring**
  - Controller Winbond NCT6102D
  - CPU temperature, system temperature, power and fan speed detection

- **Expansion Slot**
  - One external PCIe slot (optional by AX98611 expansion card and AX96708 Riser bracket)
    - Limitation: The PCIe devices are total 12 devices. Therefore user should check how many LAN chip configuration are installed in NA570/NA570L.

- **Other Features**
  - NA570 supports two front-accessible expansion slot allows our customers to configure different LAN modules based on their solution requirements before production. It provides copper and fiber modules, up to 12 groups LAN bypass for option.(**AX98611** for 1pcs LAN module **and** PCIe x 8 slot / **AX98612** for 2pcs LAN modules)
  - NA570L supports one front-accessible expansion slot allows our customers to configure optional LAN module based on their solution requirements before production. It provides copper and fiber modules, up to 8 groups LAN bypass for option. (**AX98611** for 1pcs LAN module **or AX98610** for 1 x PCIe x 8 slot.)

- **Power Supply**
  - 270W single power supply
  - 1U 200W redundant power supply (NA570 optional)

Note:

Indicates to unplug all AC power cord(s) to disconnect AC Power

- **OS Compatibility**
  - Linux

Mechanical/Environmental

- **Form Factor**
  - 1U rackmount

- **LED**
  - Power, HDD, GPIO LEDs, LAN bypass LEDs

- **Operation Temperature**
  - 0°C ~ 40°C (32°F ~ 104°F)

- **Storage Temperature**
  - -20°C ~ 85°C (-4°F ~ 185°F)

- **Humidity**
  - 10% - 95% RH, non-condensing

- **Chassis Material**
  - Steel

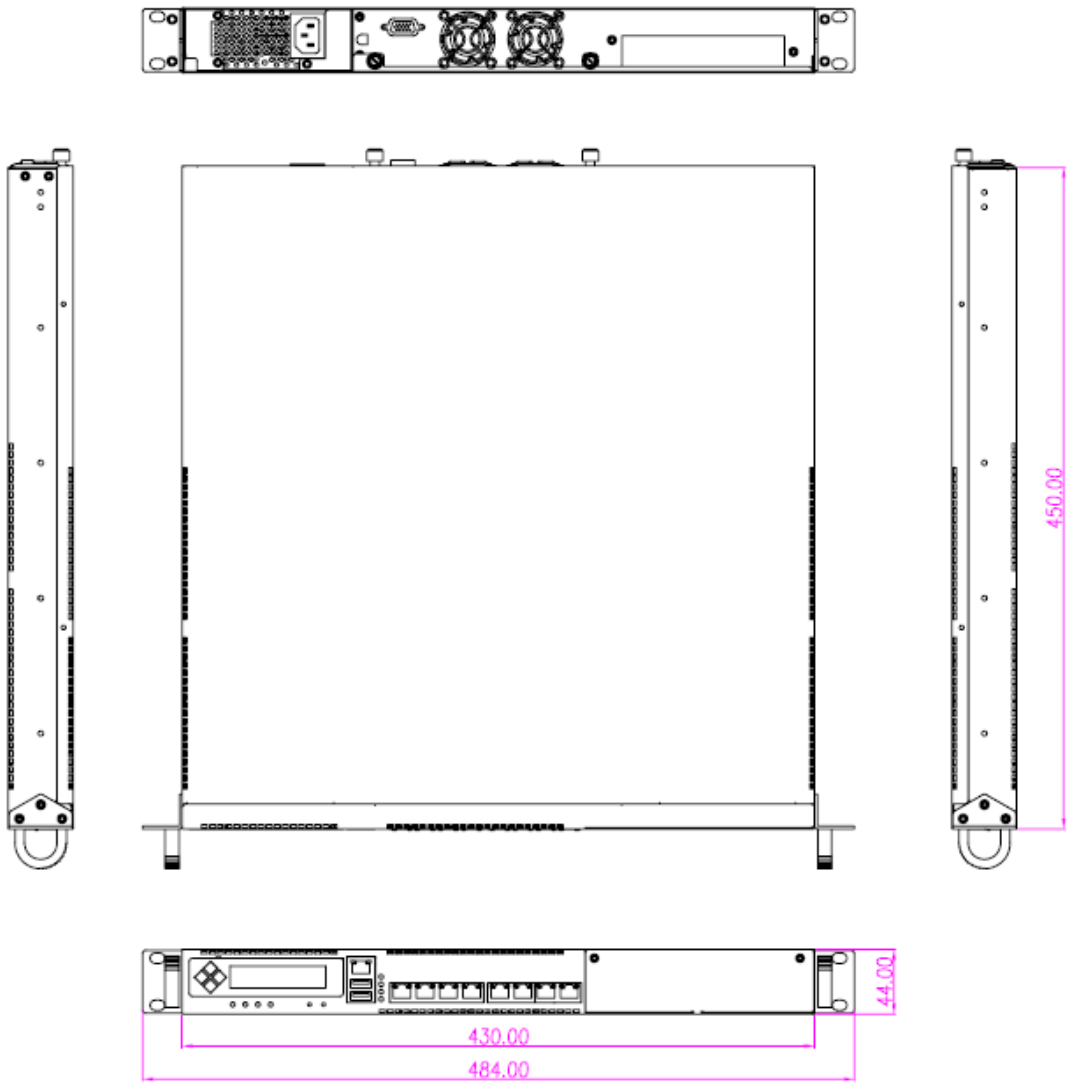
- **Dimensions**
  - 44mm (1.73") (H) x 430mm (16.84") (W) x 450mm (20.59") (D)

- **Certificate**
  - FCC class A / CE class A

Note: ***All specifications and images are subject to change without notice.***

1.4 Dimensions and Outlines

The following diagram shows you dimensions and outlines of the NA570 Series.

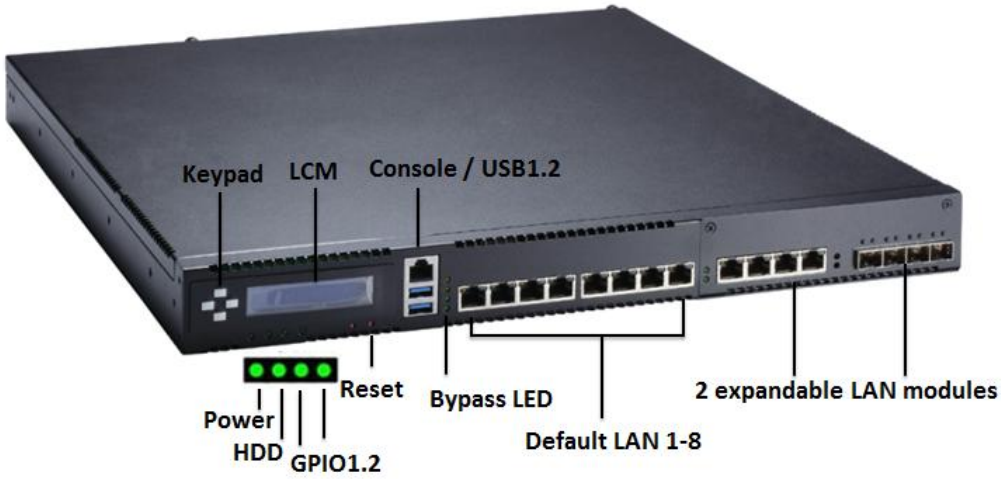


Default: 8 LAN ports Expandable up to 24 LAN ports

1.5 I/O Outlets

Locate front and rear panel I/O outlets on the NA570 Series server to connect serial and ethernet interface devices.

1.5.1 Front Panel



- **Power LED (Green)**
  LED light up when the server is powered on to perform diagnostic tests and proper operation checking.
- **HDD LED (Green)**
  LED flashes when HDD is transmitting or receiving data.
- **Programmable LED GPIO1, GPIO2 (Green)**
  The GPIO1 and GPIO2 LEDs are controlled by programmable GPIO. A sample code will be provided that allow users to define their own function. The sample codes for the above features can be found in the CD, and they are only for customers' reference as remarked.
- **"Default" Tact Switch (Left)**
  The sample code will be provided that allows users to define their own function. For example, when the system has any problems, this switch can support to reset it to the customer's OS default settings if our customer's OS supports this application.
- **"Reset" Tact Switch (Right)**
  It is for reset the system to reboot your computer instead of turning OFF the power switch. It is a better way to reboot your system for a longer life of the system's power supply.
- **Console Port**
  This is a Cisco RJ-type connector console port for command line interface and diagnostic support by P.O.S.T (Power On Self Test).
- **USB1.2 Ports**
  Two USB 3.0 ports supported.
- **LAN bypass LED**
  While running the LAN By-Pass function, the LED always lights up.

- **Transfer Rate for LAN port**
  The double-color LED light indicates 10/100/1000Mbps transfer rate.

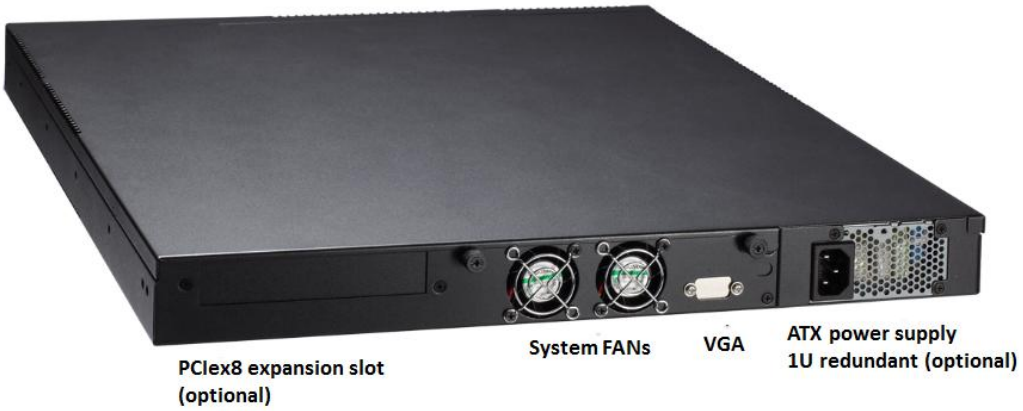
LED Light Color	Transfer Rate
Dark	10Mbps
Green	100Mbps
Orange	1000Mbps

  - If the LED is dark and Active/Link LED is lighting on flashing, the transfer rate should be 10Mbps.
  - When the green-color LED light is radiating, the transfer rate should be 100Mbps.
  - When the orange-color LED light is radiating, the transfer rate should be 1000Mbps.
  - When this LED and Link/Active LED both are dark, no networking devices are attached.

- **Active/Link LED for LAN Port**
  - The orange LED is on when the LAN port connection is working.
  - The LED flashes when transmitting or receiving any signals to or from the appliance.
  - The LED is dark when the appliance is off.

Note: ***Optional LAN module LED definition in Appendix C.***

1.5.2 Rear Panel



- **Power Supply**
  System power use power cord to connect the power supply to electrical outlet (AC).
- **System Fan**
  These are fans for cooling down system temperature.

Chapter 2
Hardware and Installation

The NA570 Series are convenient for your various hardware configurations. This chapter will help you get familiar with the hardware.

2.1 Check List

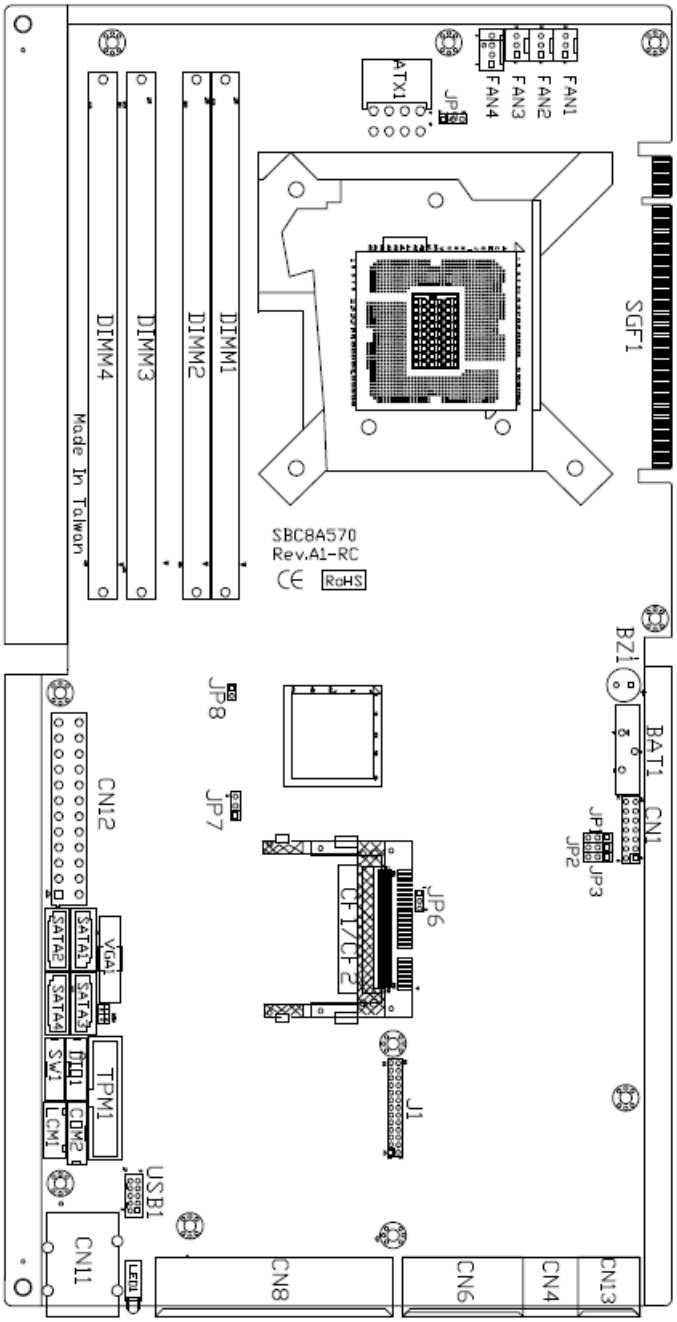
The package bundled with your NA570 Series should contain the following items:

- **The NA570 Series network appliance hardware platform**
- **Power cord x 1**
- **Utility CD (including user's manual and sample code)**
- **Mounting brackets for rack installation (left/right) x 2**
- **Plastic stand for stack–up x 4**
- **Mounting screws for disk drive and additional screws for this appliance's spare parts**
- **SATA II cable x 2 for 2.5" SATA HDDs**

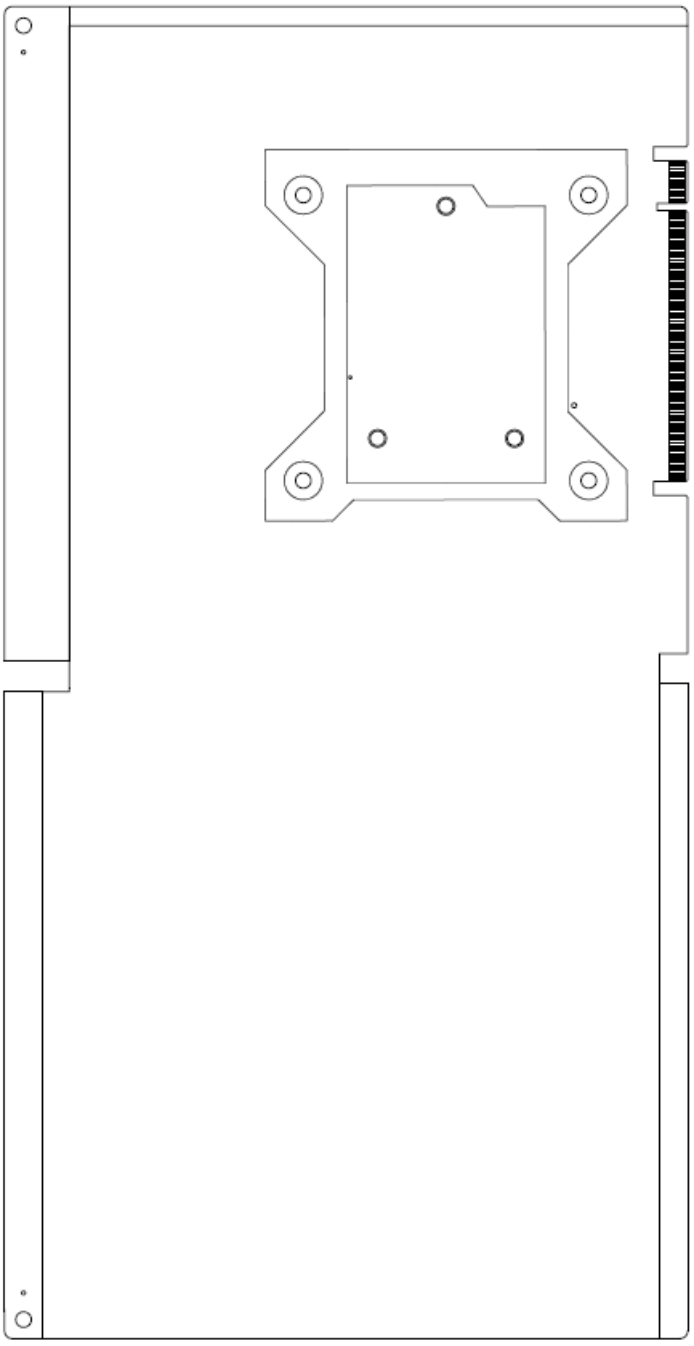
If you can not find this package or any items are missing, please contact Axiomtek distributors immediately. If you order any optional components, the package might contain those additional hardware or documents accordingly.

2.2 Board Layout

TOP

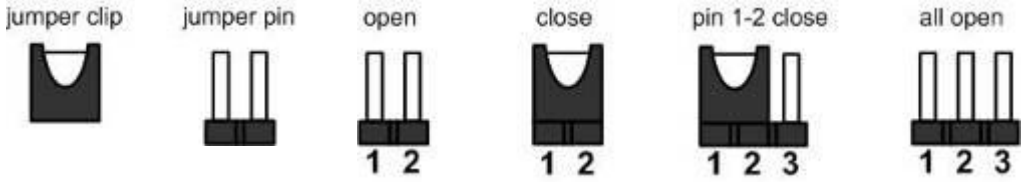


BOTTOM



2.3 Jumper Settings

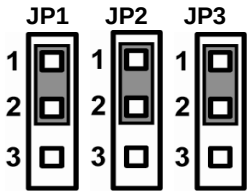
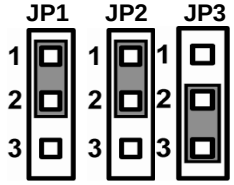
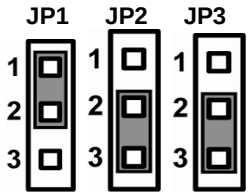
Jumper is a small component consists of jumper clip and jumper pins. Install jumper clip on 2 jumper pins to close. And remove jumper clip from 2 jumper pins to open. Below illustration shows how to set up jumper.



This section provides the information about jumpers and connectors of NA570 Series. Properly configure jumper settings on the main board in this appliance to meet your application purpose. Below we list a summary table of all jumpers and default settings for onboard devices.

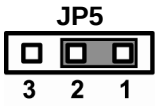
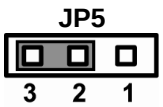
Jumper	Definition	Jumper Setting
JP1 JP2 JP3	LAN Bypass Trigger When Power On	(1-2)/(1-2)/(1-2)： Mother board/SEGN1 ~4 Bypass as same as Power Off status (1-2)/(1-2)/(2-3)： Mother board/SEGN1~4 Bypass Disable(Default) (1-2)/(2-3)/(2-3)： Mother board/SEGN1 ~4 Bypass Enable
JP5	Auto Power Button Mode Selection	1-2：Always Off 2-3：Always On (Default)
JP6	Compact Flash™ Voltage Selection	1-2：+3.3V (Default) 2-3：+5V
JP7	Clear CMOS Setting	1-2：Normal (Default) 2-3：Clear CMOS

2.3.1 LAN Bypass Control Selection Jumper (JP1, JP2, JP3)

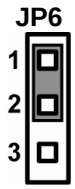
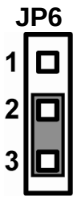
Description	Function	Jumper Setting
LAN Bypass Trigger when Power On	Mother board/SEGN1 ~4 Bypass as same as Power Off status	
	Mother board/SEGN1 ~4 Bypass Disable(Default)	
	Mother board/SEGN1 ~4 Bypass Enable	

Note: ***When the system is turned on, you can select LAN bypass function by Jumper and Bios when power on state, when enter the OS, you can select LAN pass function at power on/ off state by software.***

2.3.2 Auto Power Button Model Jumper (JP5)

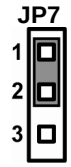
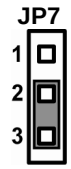
Description	Function	Jumper Setting
Auto Power Button Mode Selection	Always Power Off ATX Mode	
	Always Power On (Default)	

2.3.3 Compact Flash™ Voltage Selection Jumper (JP6)

Description	Function	Jumper Setting
Compact Flash™ Voltage Selection	+3.3V (Default)	
	+5V	

2.3.4 CMOS Clear Jumper (JP7)

Use this jumper to erase and restore CMOS memory and BIOS setting. Put jumper clip to pin 2-3 for a few seconds then move it back to pin 1-2. By doing this procedure CMOS data resets to its safe default settings.

Description	Function	Jumper Setting
COMS Clear	Normal (Default)	
	Clear CMOS	

2.4 Connectors

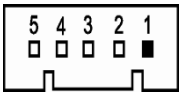
Signals go to other parts of the system through connectors. Loose or improper connection might cause problems, please make sure all connectors are properly and firmly connected. Here is a summary table which shows all connectors on the hardware.

Connectors	Label
LCM Connector	LCM1
TPM Module Connector	TPM1
Front Panel Bezel Connector	CN1
Serial Port1 (For Console) & USB3.0 Port0 ~ Port1 Connector	CN11
ATX Power Connector	CN12
ATX +12V CPU Power Connector	ATX1
Battery Connector	BAT1
LAN1 & LAN2 & LAN3 & LAN4 RJ45 Connector	CN8
LAN5 & LAN6 & LAN7 & LAN8 RJ45 Connector	CN4
VGA Connector	VGA1
Serial Port2 Connector	COM2
FAN Connector	FAN1
FAN Connector	FAN2
Serial ATA Connector	SATA1
Serial ATA Connector	SATA2
Front Switch Panel Connector	SW1
Digital Input / Output Connector	DIO1
USB2.0 Port2 ~ Port3 Connector	USB1
DDR III DIMM Socket	DIMM1
DDR III DIMM Socket	DIMM2
DDR III DIMM Socket	DIMM3
DDR III DIMM Socket	DIMM4

2.4.1 LCM Power Connector (LCM1)

This is a 5-pin connector for LCM or SATA Power selection.

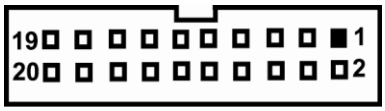
Pin	Signal
1	+5V
2	RX
3	N.C
4	TX
5	GND



CN2

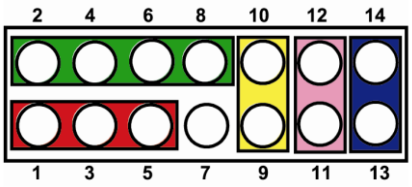
2.4.2 TPM Module Connector (TPM1)

Pin	Signal	Pin	Signal
1	CLK_33M	2	GND
3	LPC_FRAME#	4	N.C
5	PLTRST#	6	+5V
7	LPC_AD3	8	N.C
9	+3.3V	10	LPC_AD1
11	LPC_AD0	12	GND
13	SMBCLK	14	SMBDATA
15	N.C	16	SUS_STAT#
17	GND	18	LPC_SERIRQ
19	SUSCLK	20	N.C



CN3

2.4.3 Front Panel Bezel Connector (CN1)



Power LED：

This 3-pin connector (Pin 1, 3, 5) connects a LED indicator to the system power switch on the case. Pin 1 is assigned as +, and Pin 3, Pin 5 as -. The Power LED lights up when the system is powered ON.

External Speaker and Internal Buzzer Connector：

This 4-pin connector (Pin 2, 4, 6, 8) can be connected to the case-mounted speaker unit or internal buzzer. While connecting the CPU card to an internal buzzer, please short pins 2-4; while connecting to an external speaker, you need to set pins 2-4 to Open and connect the speaker cable to pin 8 (+) and pin 2 (-).

ATX Power On/Off Button：

This 2-pin connector (Pin 9, 10) connects the front panel's ATX power button to the CPU card, which allows users to control ATX power supply to be power on/off.

System Reset Switch：

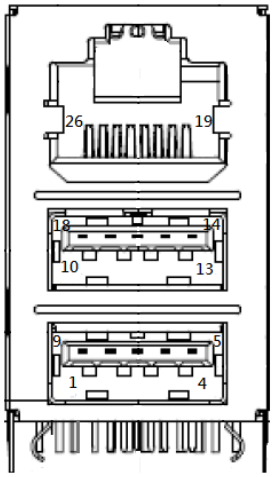
This 2-pin connector (Pin 11, 12) can be connected to the case-mounted reset switch that reboots your computer instead of turning OFF the power switch. It is a better way to reboot your system for a longer life of the system's power supply.

HDD Activity LED：

This connection is linked to hard drive activity LED on the control panel. LED flashes when HDD is being accessed. The 2-pin connector (Pin 13, 14) connects the hard disk drive to the front panel HDD LED, Pin 13 assigned as -, and Pin 14 as +.

2.4.4 Serial Port1 & USB3.0 Port1/2 Connector (CN11)

Pin	Signal	Pin	Signal
1	USB_POWER	2	USBP0N
3	USBP0P	4	GND
5	SSRX0N	6	SSRX0P
7	GND	8	SSTX0N
9	SSTX0P	10	USB_POWER
11	USBP1N	12	USBP1P
13	GND	14	SSRX1N
15	SSRX1P	16	GND
17	SSTX1N	18	SSTX1P
19	NRTS1	20	MDTR1
21	MTXD1	22	COM1GND
23	COM1GND	24	MRXD1
25	NDSR1	26	NCTS1

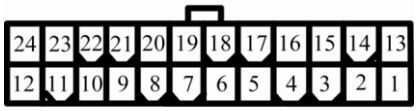


CN11

2.4.5 ATX Power Connector (CN12)

Steady and sufficient power can be supplied to all components on the board by connecting the power connector. Please make sure all components and devices are properly installed before connecting the power connector.

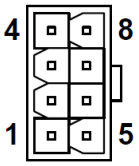
Pin	Signal	Pin	Signal
1	+3.3V	2	+3.3V
3	GND	4	+5V
5	GND	6	+5V
7	GND	8	PWR_OK
9	5VSB	10	+12V
11	+12V	12	+3.3V
13	+3.3V	14	-12V
15	GND	16	PS_ON
17	GND	18	GND
19	GND	20	-12V
21	+5V	22	+5V
23	+5V	24	GND



ATX1

2.4.6 ATX +12V CPU Power Connector (ATX1)

Pin	Signal
1	GND
2	GND
3	GND
4	GND
5	+12V
6	+12V
7	+12V
8	+12V

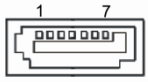


ATX1

2.4.7 Serial ATA Connectors (SATA1.2)

These Serial Advanced Technology Attachment (SATA) connectors are for high-speed SATA interface ports. They are computer bus interfaces for connecting to devices such as serial ATA hard disk drives. Each SATA connector supports a single SATA device.

Pin	Signal	Pin	Signal
1	GND	2	TX+
3	TX-	4	GND
5	RX-	6	RX+
7	GND		

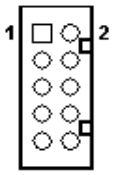


SATA1, SATA2

2.4.8 USB Port Connectors (USB1)

The 10-pin standard Universal Serial Bus (USB) connector on this board is for installing versatile USB interface peripherals.

Pin	Signal	Pin	Signal
1	USB_POWER	2	USB_POWER
3	USB_PN1	4	USB_PN2
5	USB_PP1	6	USB_PP2
7	GND	8	GND
9	GND	10	GND

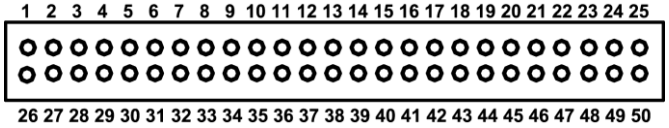


USB1

2.4.9 Compact Flash™ Socket (CF1)

The board is equipped with a Compact Flash™ socket on the solder side to support a SATA signal card. The socket is especially designed to avoid incorrect installation of the Compact Flash™ card. When installing or removing the Compact Flash™ card, please make sure the system power is off.

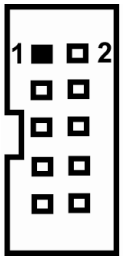
Pin	Signal	Pin	Signal
1	GND	2	Data 3
3	Data 4	4	Data 5
5	Data 6	6	Data 7
7	CS0#	8	Address 10
9	ATASEL	10	Address 9
11	Address 8	12	Address 7
13	VCC	14	Address 6
15	Address 5	16	Address 4
17	Address 3	18	Address 2
19	Address 1	20	Address 0
21	Data 0	22	Data 1
23	Data 2	24	IOCS16#
25	CD2#	26	CD1-
27	Data 11	28	Data 12
29	Data 13	30	Data 14
31	Data 15	32	CS1#
33	VS1#	34	IORD#
35	IOWR#	36	WE#
37	INTR	38	VCC
39	CSEL#	40	VS2#
41	RESET#	42	IORDY#
43	DMAREQ	44	DMAACK-
45	DASP#	46	PDIAG#
47	Data 8	48	Data 9
49	Data 10	50	GND



2.4.10 Serial Port 2 Connector (COM2)

The COM port pin assignments are listed on the following table.

Pin	Signal
1	Data Carrier Detect (DCD)
2	Data Set Ready(DSR)
3	Receive Date(RXD)
4	Request to Send(RTS)
5	Transmit Data(TXD)
6	Clear to Send(CTS)
7	Data Terminal Ready(DTR)
8	Ring Indicator(RI)
9	GND
10	NC

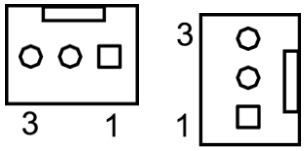


COM2

2.4.11 FAN Connector (FAN1.FAN2)

System fans are always needed to cool down CPU and system temperature. FAN1 ~ FAN2 connectors provide power to these system fans.

Pin	Signal
1	Ground
2	+12V
3	Rotation Detection



FAN1 , FAN2

2.5 Hardware Installation

This section provides information of how to install the NA570 Series.

2.5.1 Installing the CPU

Before installing the processor, please access Intel® website for more detail information of Processor Integration Video (LGA1150)**:**
http://www.intel.com/support/tw/processors/sb/CS-030860.htm .

The LGA1150 processor socket comes with a cover to protect the processor. Please install the processor into the CPU socket step by step as below:

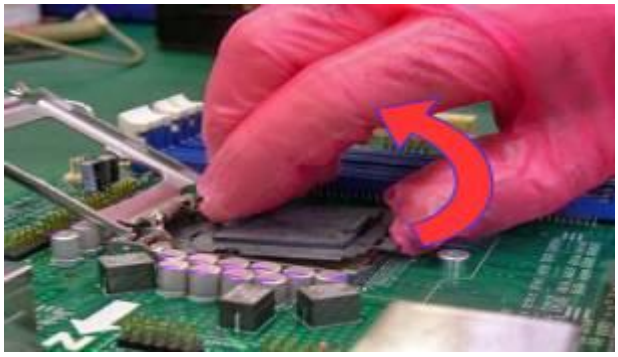
Step 1 Opening the socket:

- Disengage load lever by releasing down and out on the hook. This will clear retention tab.
- Rotate load lever to open position at approximately 135°.
- Rotate load plate to open position at approximately 150°.

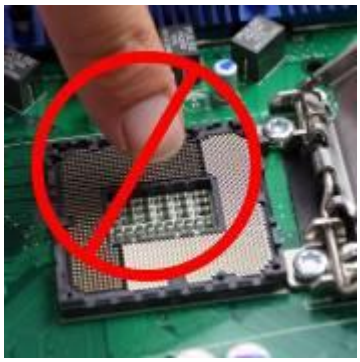
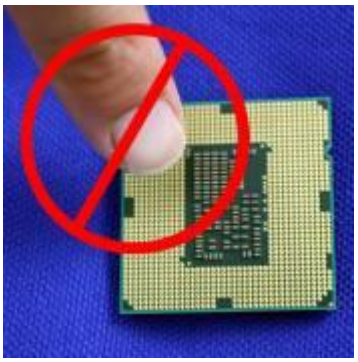
Note: ***Apply pressure to corner with right-hand thumb when opening or closing load lever - otherwise lever will bounce back (as a mouse trap) causing bent contacts.***

Step 2 Removing the socket protective cover:

- Place thumb against the front edge of the protective cover and rest index finger on the rear grip to maintain control of the cover.
- Lift the front edge of the protective cover to disengage from the socket. Keep control of the cover by holding the rear grip with index finger.
- Lift protective cover away from the socket, being careful not to touch the electrical contacts.



Note: ***Vertical removal is NOT recommended, as it requires higher force and can lead to socket contact damage.***

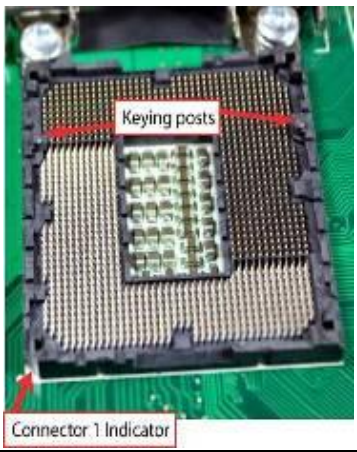



Caution: ***Never touch fragile socket contacts to avoid damage and do not touch processor sensitive contacts at any time during installation.***

Step 3 Processor installation:

- Lift processor package from shipping media by grasping the substrate edges.

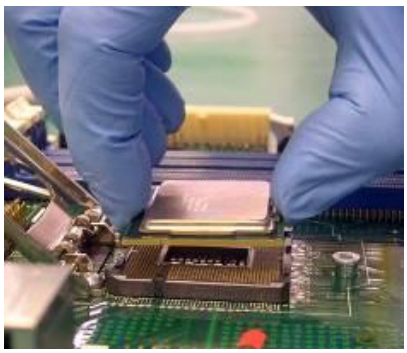
- Scan the processor package gold pads for any presence of foreign material. If necessary, the gold pads can be wiped clean with a soft lint-free cloth and isopropyl alcohol.
- Locate connection 1 indicator on the processor which aligns with connection 1 indicator chamfer on the socket, and notice processor keying features that line up with posts along socket walls.



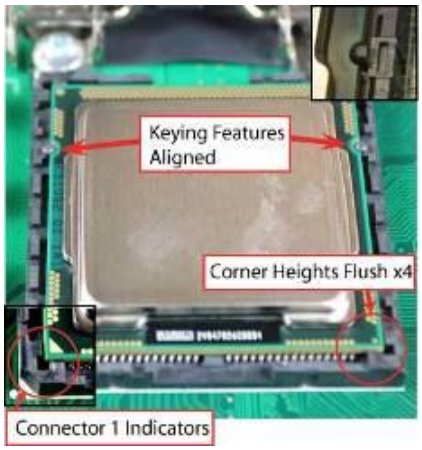
- Grasp the processor with thumb and index finger along the top and bottom edges. (Do not touch the orientation notches.) The socket will have cutouts for your fingers to fit into (see image below).
- Carefully place the processor into the socket body vertically (see image below).

Note: ***Tilting or roughly shifting it into place can damage socket contacts.***

Caution: ***Do not use a vacuum pen for installation.***

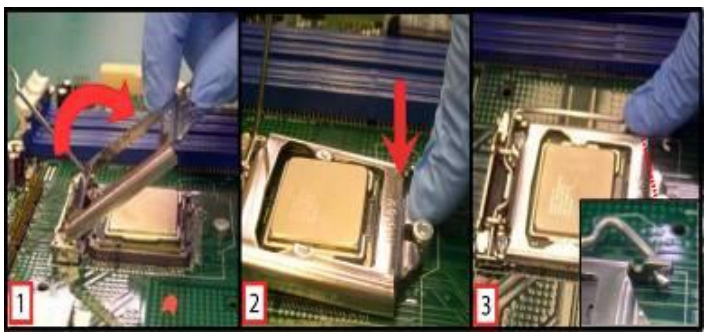


- Verify that package is within the socket body and properly connected to orientation keys.



- Close the socket (see image below):

1. Gently lower the load plate.
2. Make sure load plate's front edge slides under the shoulder screw cap as the lever is lowered.
3. Latch the lever under the top plate's corner tab, being cautious not to damage the motherboard with the tip of the lever.

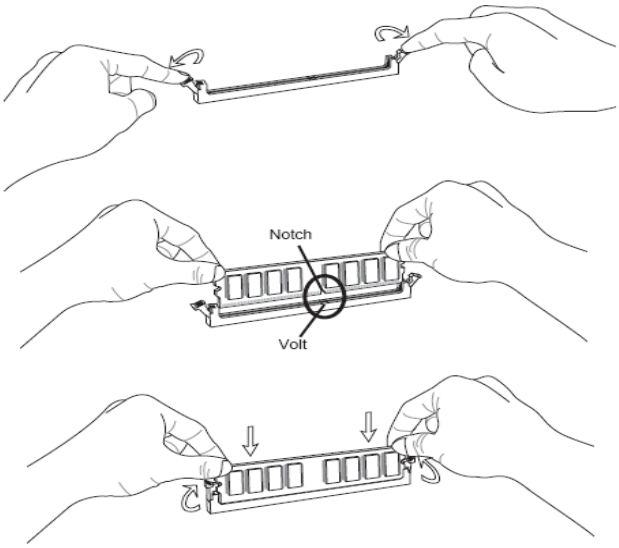


2.5.2 Installing the Memory

The board supports four 240-pin DDR3 DIMM memory sockets with maximum memory capacity up to 32GB.

Please follow steps below to install the memory modules:

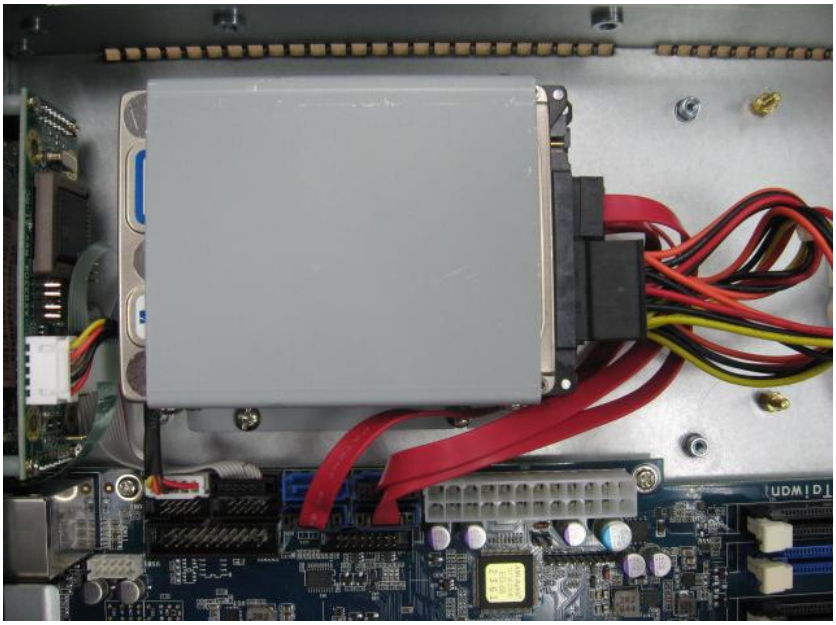
1. Push down latches on each side of the DIMM socket.
2. Align the memory module with the socket that notches of memory module must match the socket keys for a correct installation.
3. Install the memory module into the socket and push it firmly down until it is fully seated. The socket latches are levered upwards and clipped on to the edges of the DIMM.
4. Install any remaining DIMM modules.



2.5.3 Installing the Hard Disks

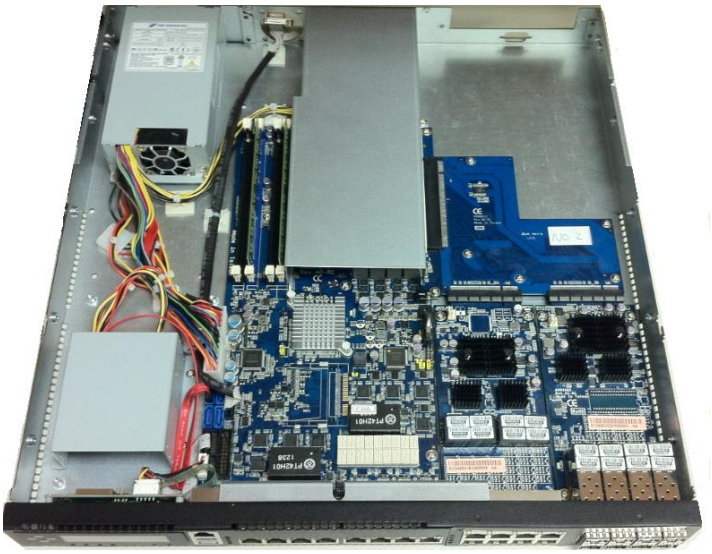
The system supports or two 2.5" HDDs or one 3.5" HDD.

- Two 2.5" HDD



- One 3.5" HDD

2.5.4 Installing the LAN modules



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Chapter 3
AMI BIOS Setup Utility

The AMI BIOS provides users with a built-in setup program to modify basic system configuration. All configured parameters are stored in a battery-backed-up RAM (CMOS RAM) to save the setup information whenever the power is turned off. This chapter provides users with detailed description about how to set up basic system configuration through the AMI BIOS setup utility.

3.1 Starting

To enter the setup screens, follow the steps below:

1. Turn on the computer and press the <F2> key immediately.
2. After you press the < F2> key, the main BIOS setup menu displays. You can access the other setup screens from the main BIOS setup menu, such as the Advanced and Chipset menus.

It is strongly recommended that you should avoid changing the chipset's defaults. Both AMI and your system manufacturer have carefully set up these defaults that provide the best performance and reliability.

3.2 Navigation Keys

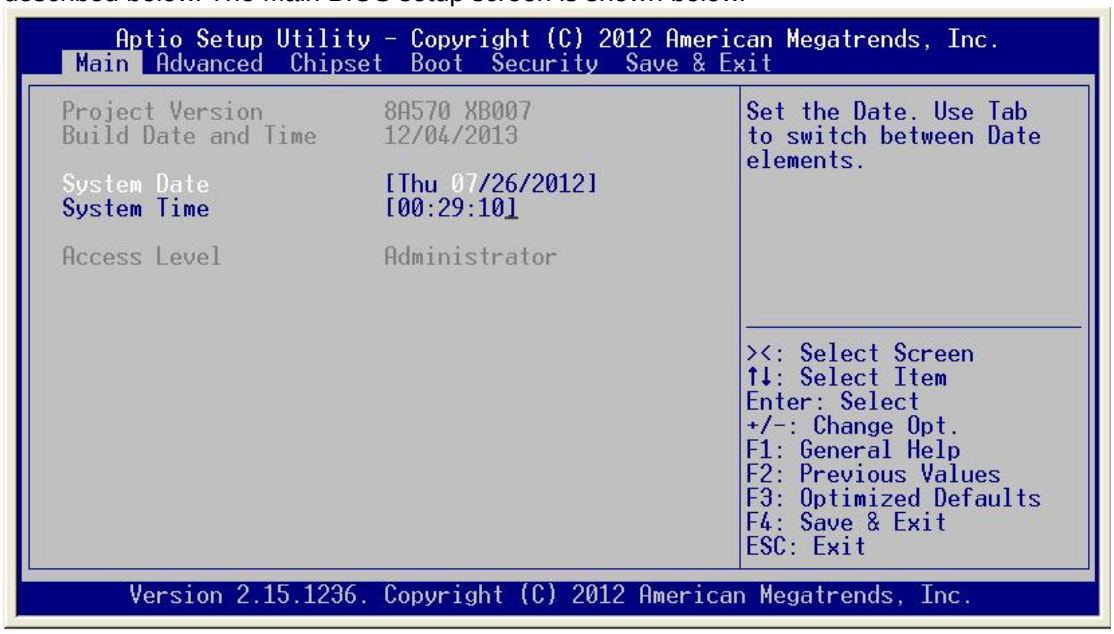
The BIOS setup/utility uses a key-based navigation system called hot keys. Most of the BIOS setup utility hot keys can be used at any time during the setup navigation process. These keys include <F1>, <F2>, <Enter>, <ESC>, <Arrow> keys, and so on.

Note: ***Some of the navigation keys differ from one screen to another.***

Hot Keys	Description
→← **Left/Right**	The Left and Right <Arrow> keys allow you to select a setup screen.
↑↓ **Up/Down**	The Up and Down <Arrow> keys allow you to select a setup screen or sub-screen.
+– Plus/Minus	The Plus and Minus <Arrow> keys allow you to change the field value of a particular setup item.
Tab	The <Tab> key allows you to select setup fields.
F1	The <F1> key allows you to display the general help screen.
F2	The <F2> key allows you to load previous values.
F3	The <F3> key allows you to load optimized defaults.
F4	The <F4> key allows you to save any changes you have made and exit setup. Press the <F4> key to save your changes.
Esc	The <Esc> key allows you to discard any changes you have made and exit the setup. Press the <Esc> key to exit the setup without saving your changes.
Enter	The <Enter> key allows you to display or change the setup option listed for a particular setup item. The <Enter> key can also allow you to display the setup sub- screens.

3.3 Main Menu

When you first enter the setup utility, you will enter the Main setup screen. You can always return to the Main setup screen by selecting the Main tab. System Time/Date can be set up as described below. The Main BIOS setup screen is shown below.



System Date/Time

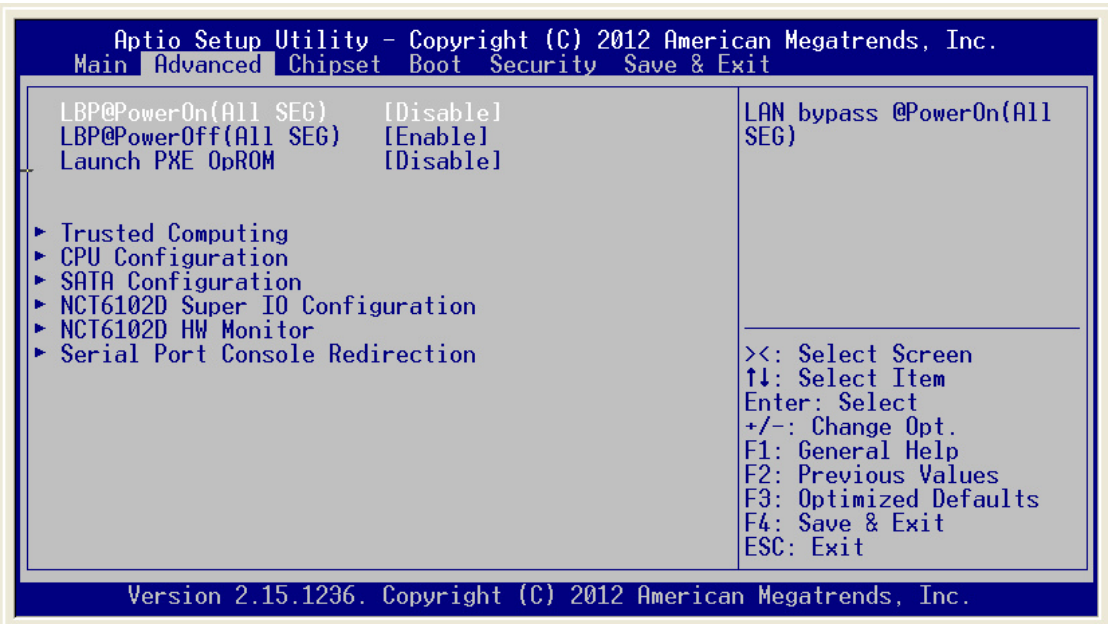
Use this option to change the system time and date. Highlight System Time or System Date using the <Arrow> keys. Enter new values through the keyboard. Press the <Tab> key or the <Arrow> keys to move between fields. The date must be entered in MM/DD/YY format. The time is entered in HH:MM:SS format.

3.4 Advanced Menu

- **Launch Storage OpROM**

This item can enable or disable boot option for legacy mass storage devices with option ROM.

The Advanced menu also allows users to set configuration of the CPU and other system devices. You can select any of the items in the left frame of the screen to go to the sub menus:

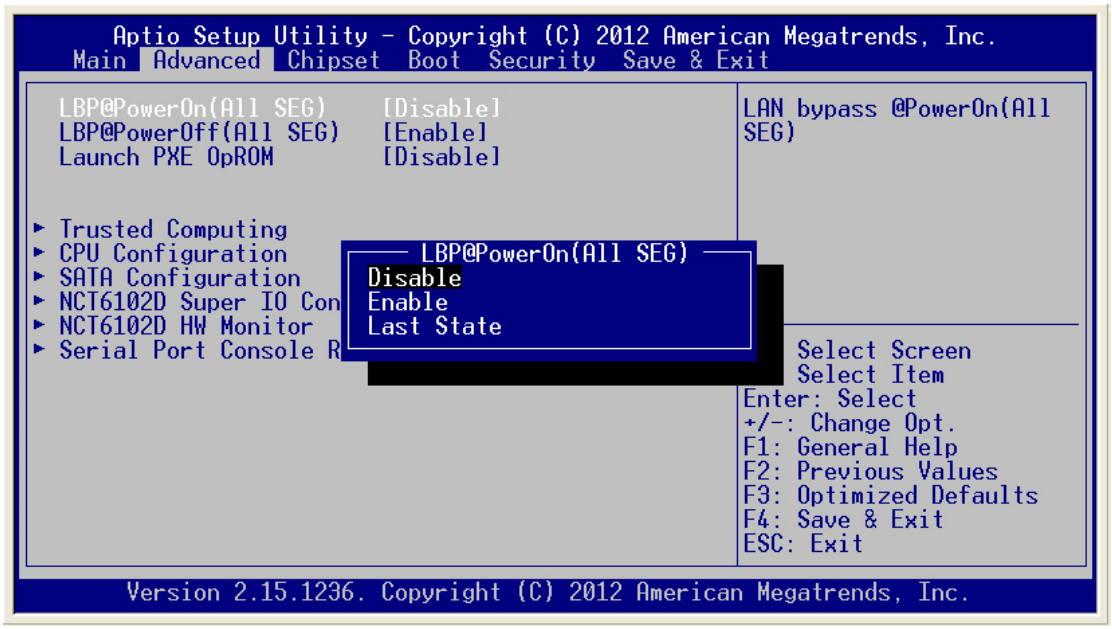


- ► LBP PowerOn/Off (All SEG) Configuration
- ► Launch PXE OpROM
- ► Trusted Computing
- ► CPU Configuration
- ► SATA Configuration
- ► NCT6102D Super IO Configuration
- ► NCT6102D H/W Monitor
- ► Serial Port Console Redirection

For items marked with "►", please press <Enter> for more options.

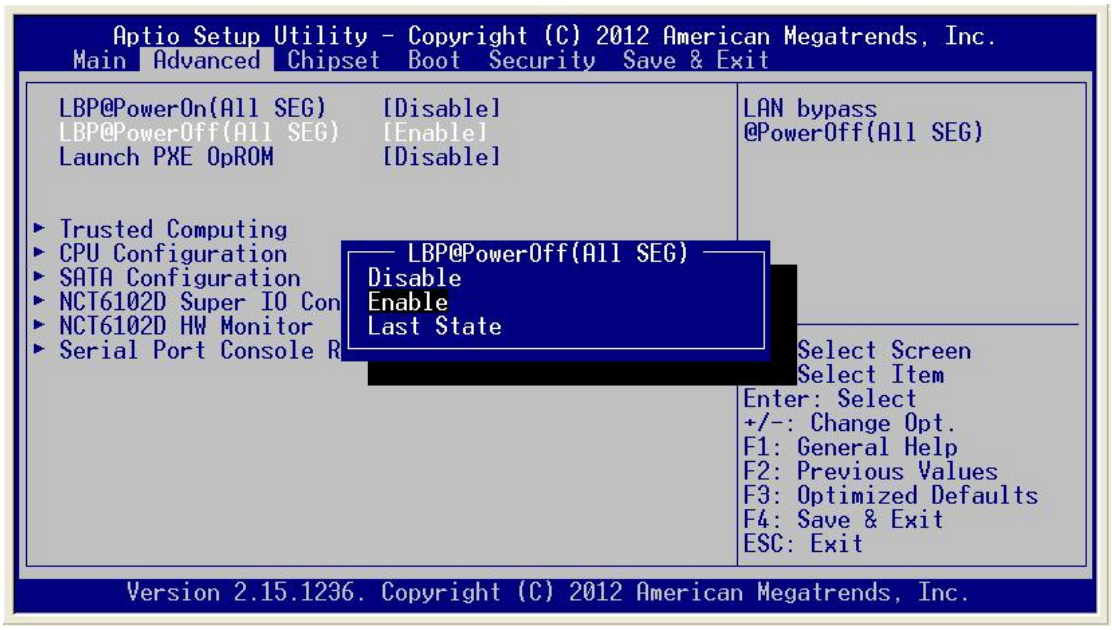
- **LBP @PowerOn (All SEG)**

For Power On LAN Bypass setting, use LBP @PowerOn item to "Disabled" ,"Enabled" or "Last State" for LAN Bypass all segments.



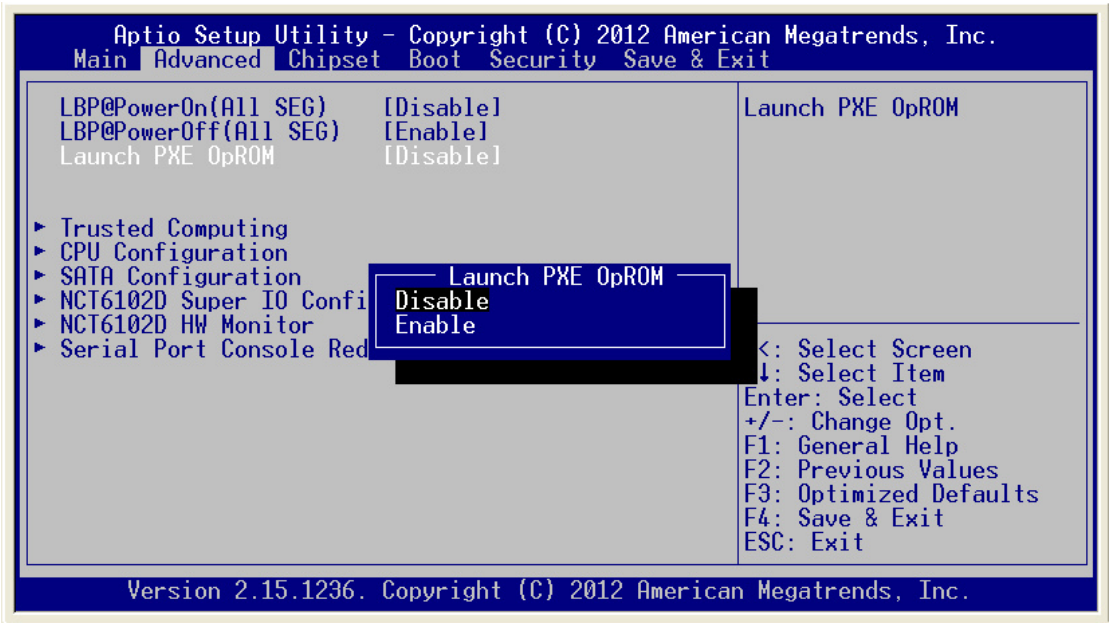
- **LBP @Power Off (All SEG)**

For Power off LAN Bypass setting, use LBP @PowerOff item to "Disabled" ,"Enabled" or "Last State" for LAN Bypass all segments.



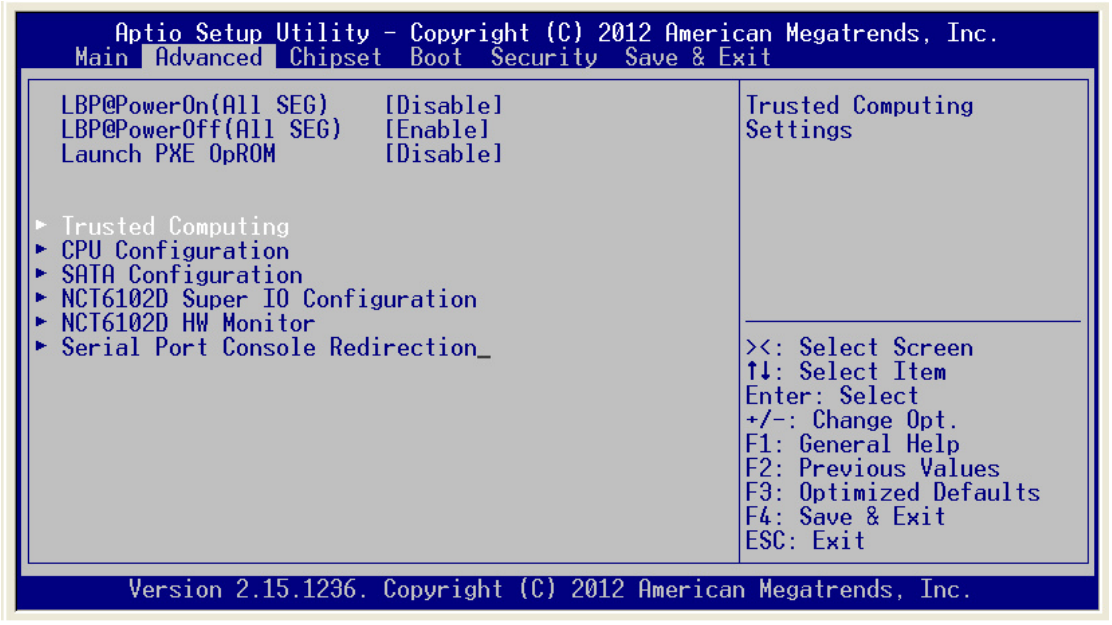
- **Launch PXE OpROM**

This screen shows "Enable" or "Disable" Boot Option for PXE Devices with Option ROM.



- **Trusted Computing**

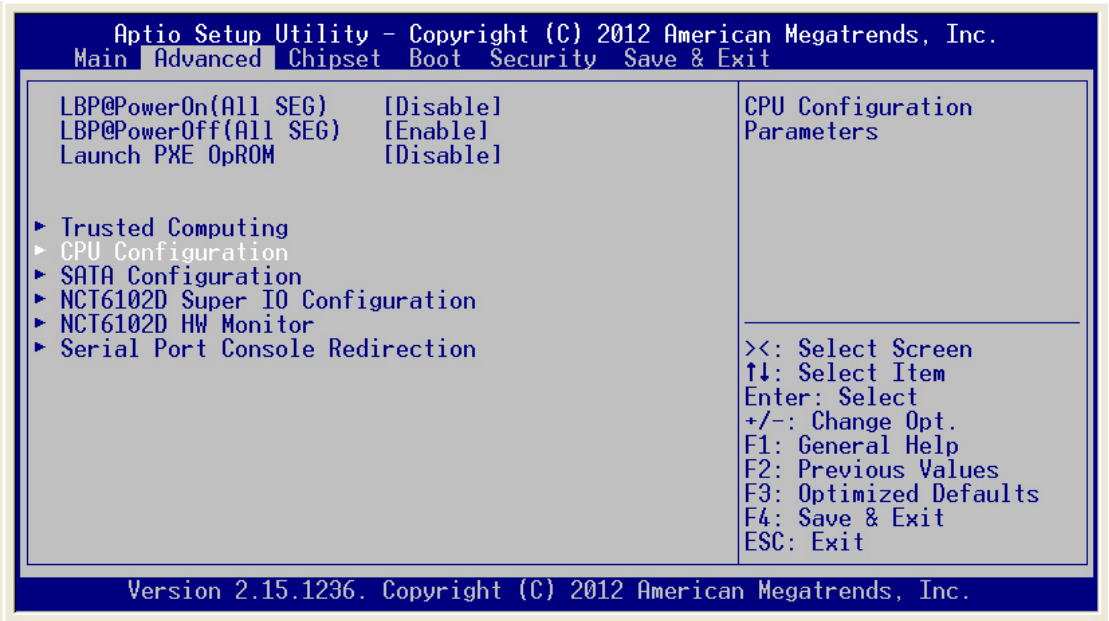
This item supports security devices. Enable or Disable BIOS support for security devices.

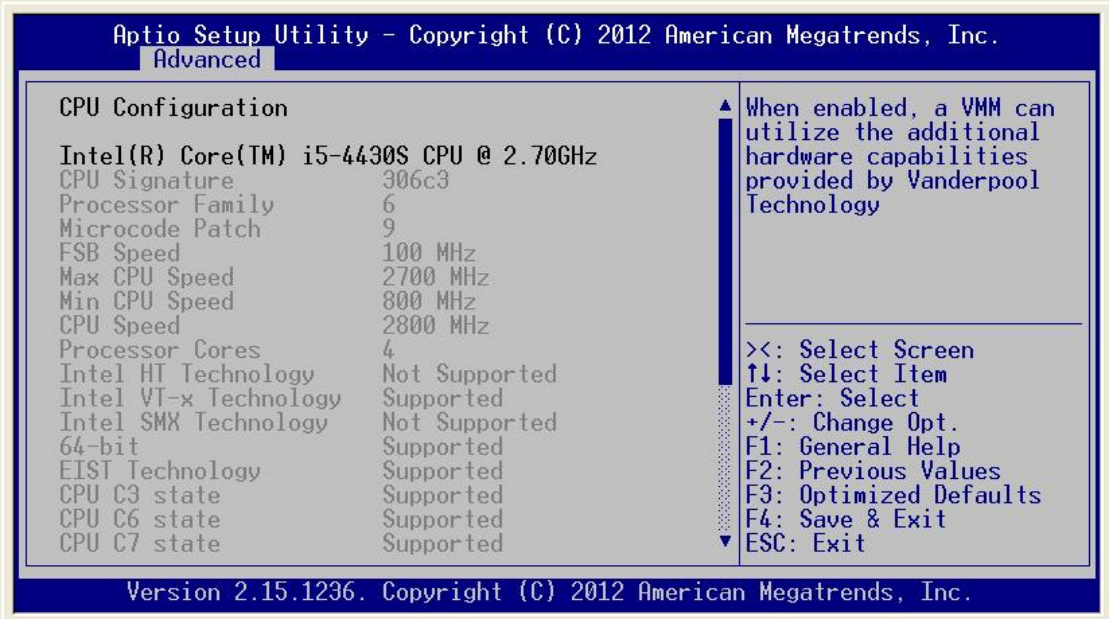


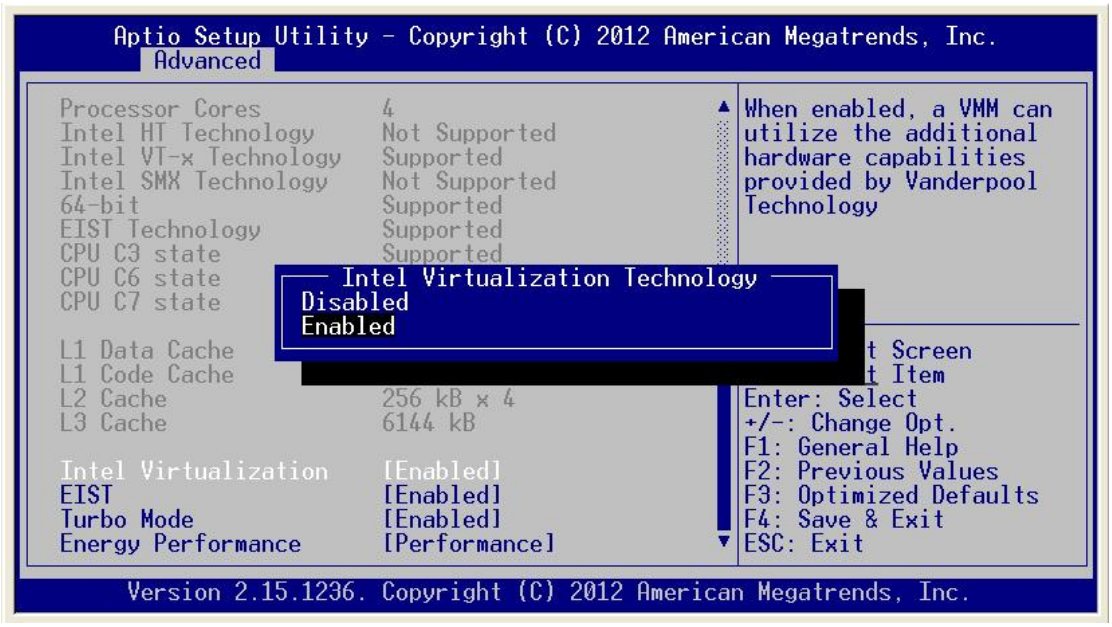
If you installed the Security device, such as TPM, you could see the following information for the TPM device and status.

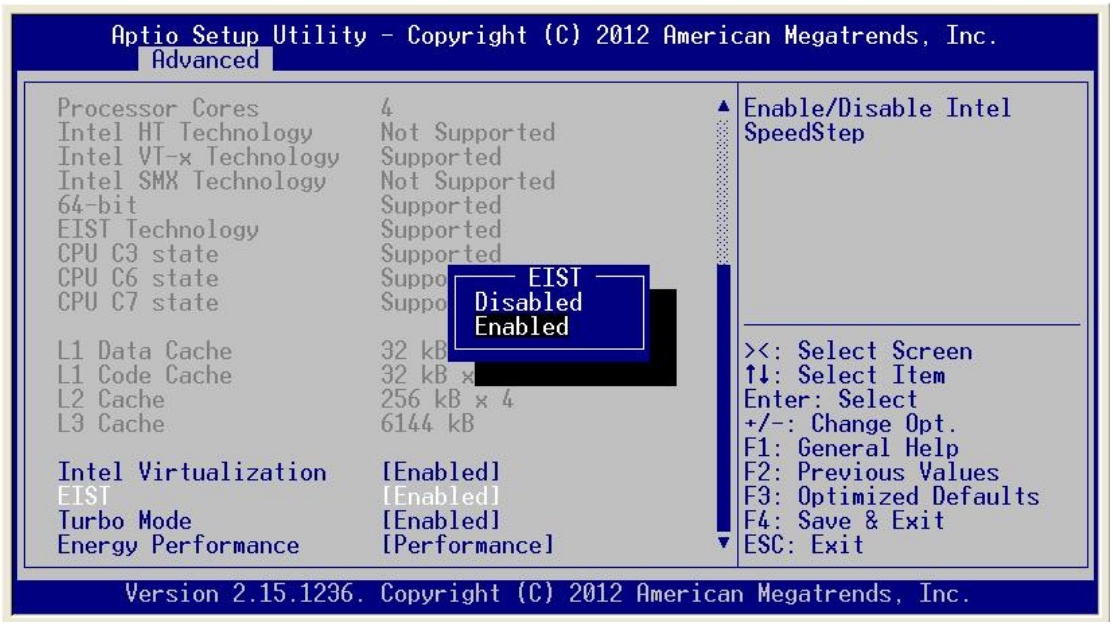
- **CPU Configuration**

This screen shows the CPU Configuration, and you can change the value of the selected option.






Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Advanced
Processor Cores 4
Intel HT Technology Not Supported
Intel VT-x Technology Supported
Intel SMX Technology Not Supported
64-bit Supported
EIST Technology Supported
CPU C3 state Supported
CPU C6 state
CPU C7 state
L1 Data Cache
L1 Code Cache
L2 Cache 256 kB x 4
L3 Cache 6144 kB
Intel Virtualization [Enabled]
EIST [Enabled]
Turbo Mode [Enabled]
Energy Performance [Performance]
Intel Virtualization Technology
Disabled
Enabled
When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.


Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Advanced
Processor Cores 4
Intel HT Technology Not Supported
Intel VT-x Technology Supported
Intel SMX Technology Not Supported
64-bit Supported
EIST Technology Supported
CPU C3 state Supported
CPU C6 state
CPU C7 state
L1 Data Cache 32 kB
L1 Code Cache 32 kB x
L2 Cache 256 kB x 4
L3 Cache 6144 kB
Intel Virtualization [Enabled]
EIST [Enabled]
Turbo Mode [Enabled]
Energy Performance [Performance]
EIST
Disabled
Enabled
Enable/Disable Intel SpeedStep
><: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
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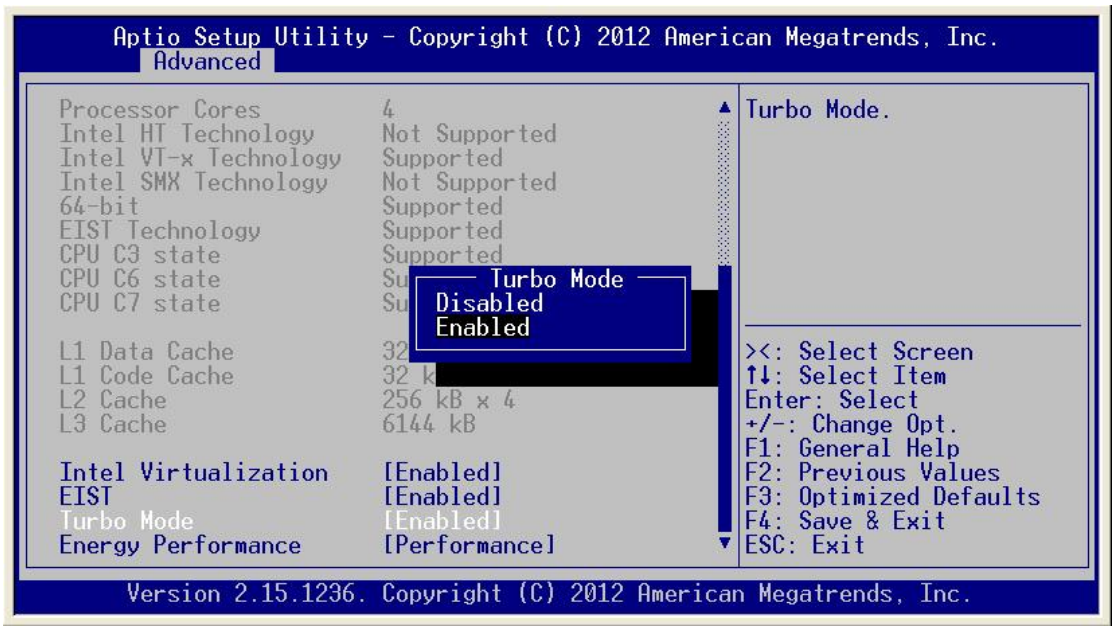
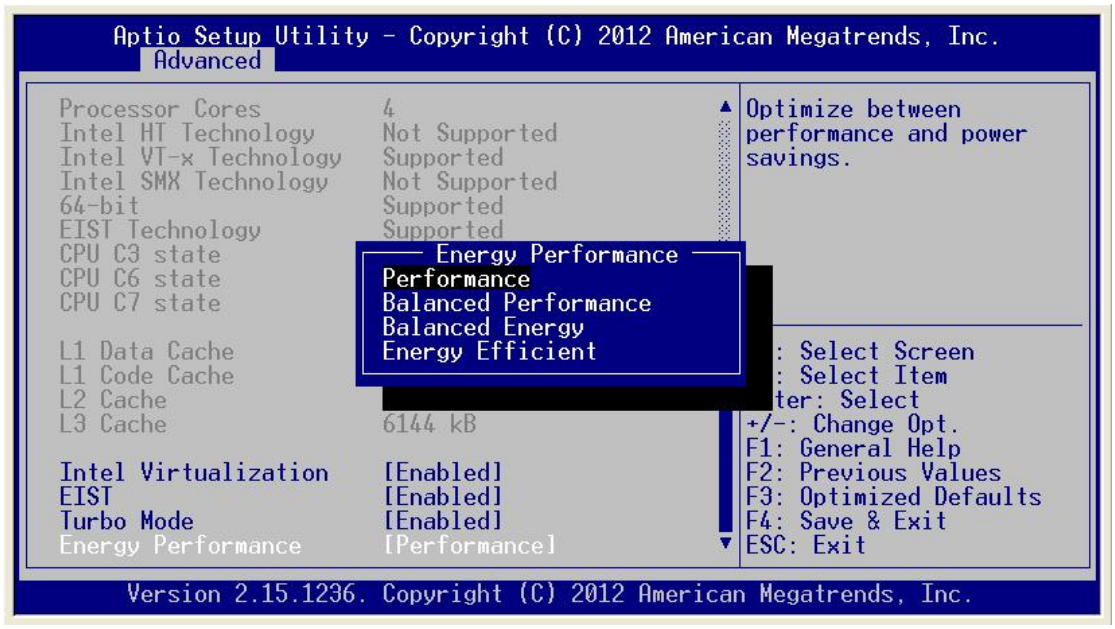

Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Advanced
Processor Cores 4
Intel HT Technology Not Supported
Intel VT-x Technology Supported
Intel SMX Technology Not Supported
64-bit Supported
EIST Technology Supported
CPU C3 state Supported
CPU C6 state Su
CPU C7 state Su
L1 Data Cache 32
L1 Code Cache 32 k
L2 Cache 256 kB x 4
L3 Cache 6144 kB
Intel Virtualization [Enabled]
EIST [Enabled]
Turbo Mode [Enabled]
Energy Performance [Performance]
Turbo Mode
Disabled
Enabled
Turbo Mode.
><: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.


Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Advanced
Processor Cores 4
Intel HT Technology Not Supported
Intel VT-x Technology Supported
Intel SMX Technology Not Supported
64-bit Supported
EIST Technology Supported
CPU C3 state
CPU C6 state
CPU C7 state
L1 Data Cache
L1 Code Cache
L2 Cache
L3 Cache 6144 kB
Intel Virtualization [Enabled]
EIST [Enabled]
Turbo Mode [Enabled]
Energy Performance [Performance]
Energy Performance
Performance
Balanced Performance
Balanced Energy
Energy Efficient
Optimize between performance and power savings.
: Select Screen
: Select Item
ter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
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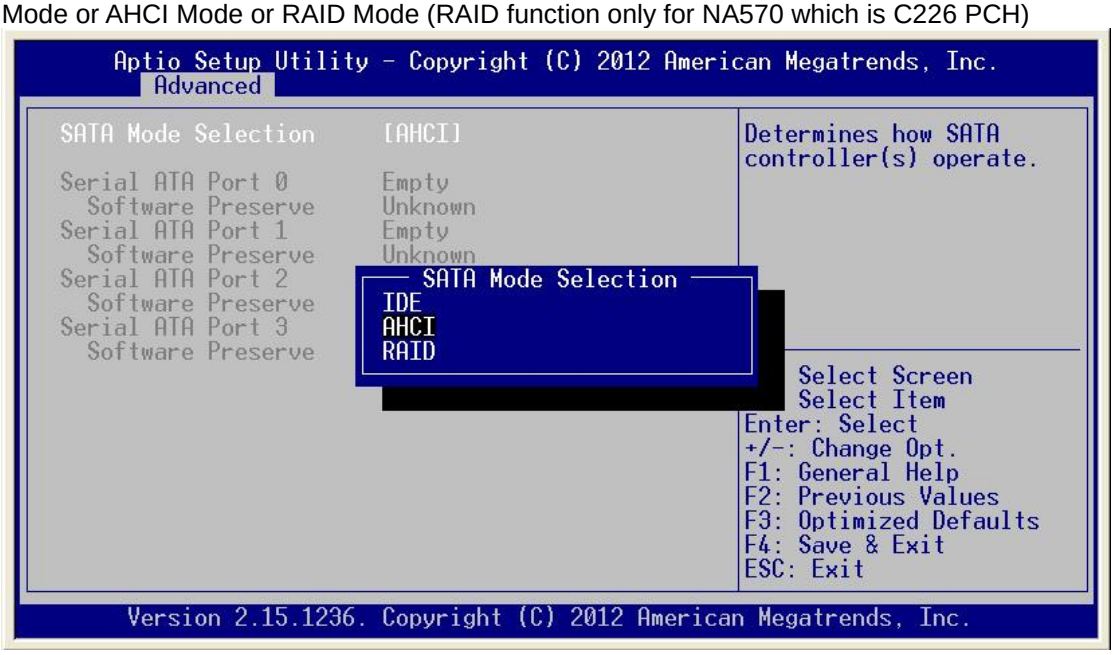
- **SATA Configuration**

You can use this screen to select options for the SATA Configuration, and change the value of the selected option. A description of the selected item appears on the right side of the screen. In this menu, you can see the currently installed hardware in the SATA ports. During system boot up, the BIOS automatically detects the presence of SATA devices.

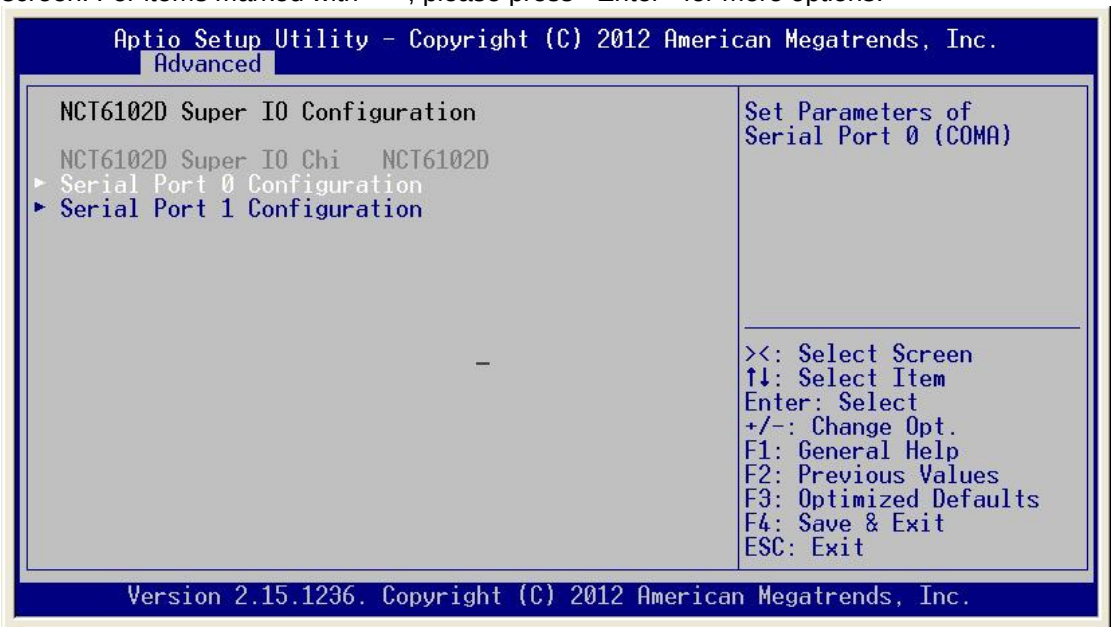
➢ **SATA Mode**

Use this item to choose the SATA operation mode. Here are the options for your selection, IDE Mode or AHCI Mode or RAID Mode (RAID function only for NA570 which is C226 PCH)



- **Super IO Configuration**

You can use this screen to select options for the Super IO Configuration, and change the value of the selected option. A description of the selected item appears on the right side of the screen. For items marked with "▶", please press <Enter> for more options.

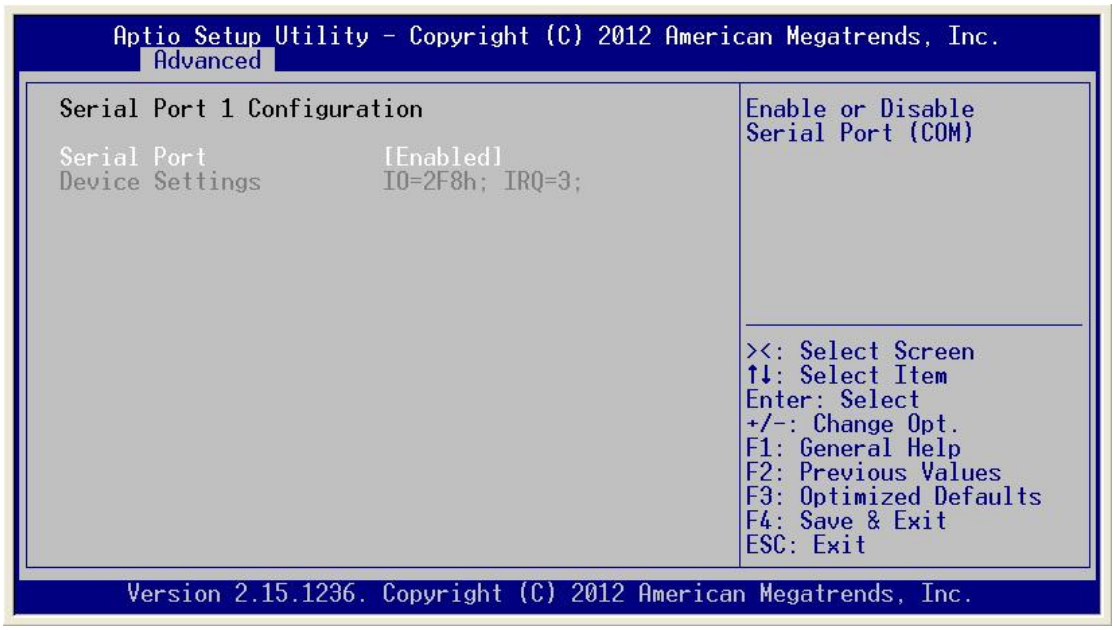


➢ **Serial Port 0 Configuration**

This option specifies the base I/O port address and Interrupt Request address of serial port 1. The Optimal setting is 3F8h/IRQ4.

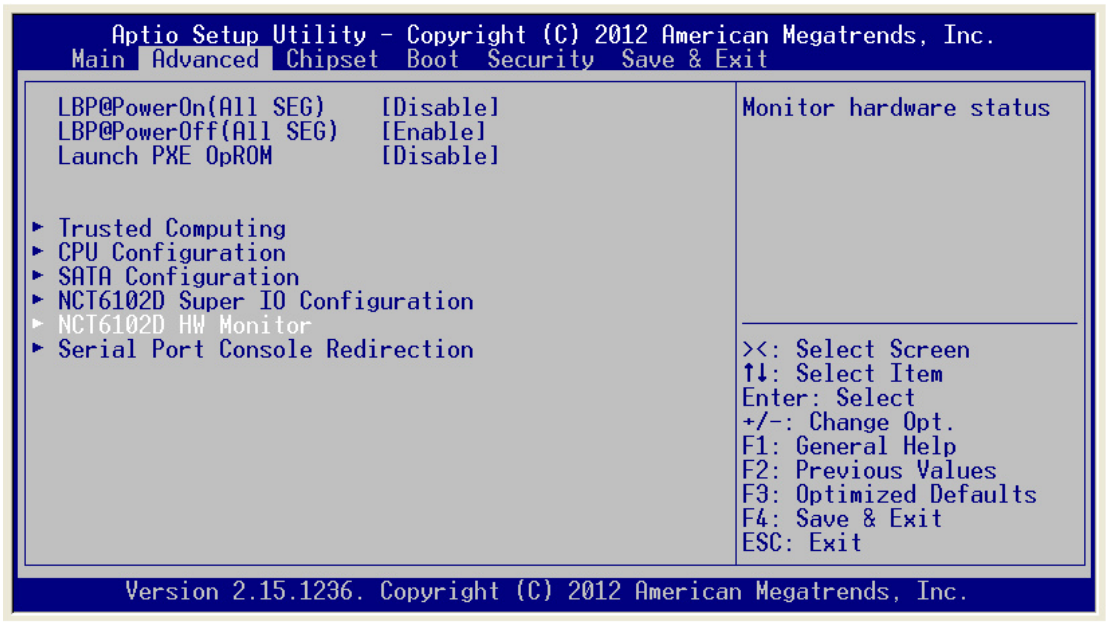
➢ **Serial Port 1 Configuration**

This option specifies the base I/O port address and Interrupt Request address of serial port 2. The Optimal setting is 2F8h/IRQ3.

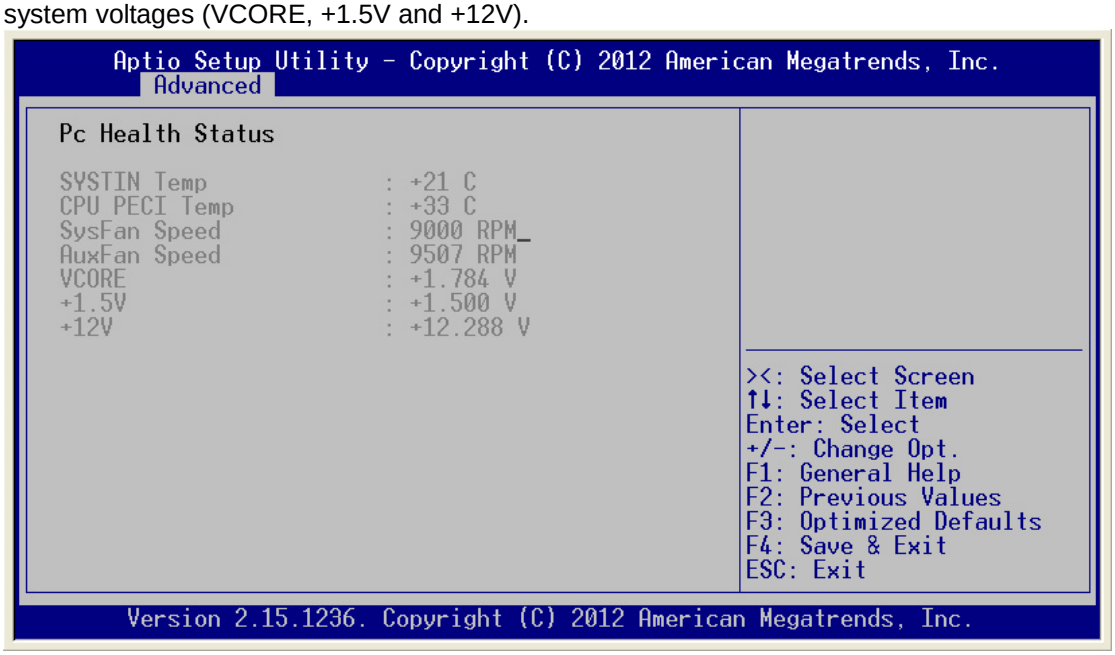


- **H/W Monitor**

This screen monitors hardware health.



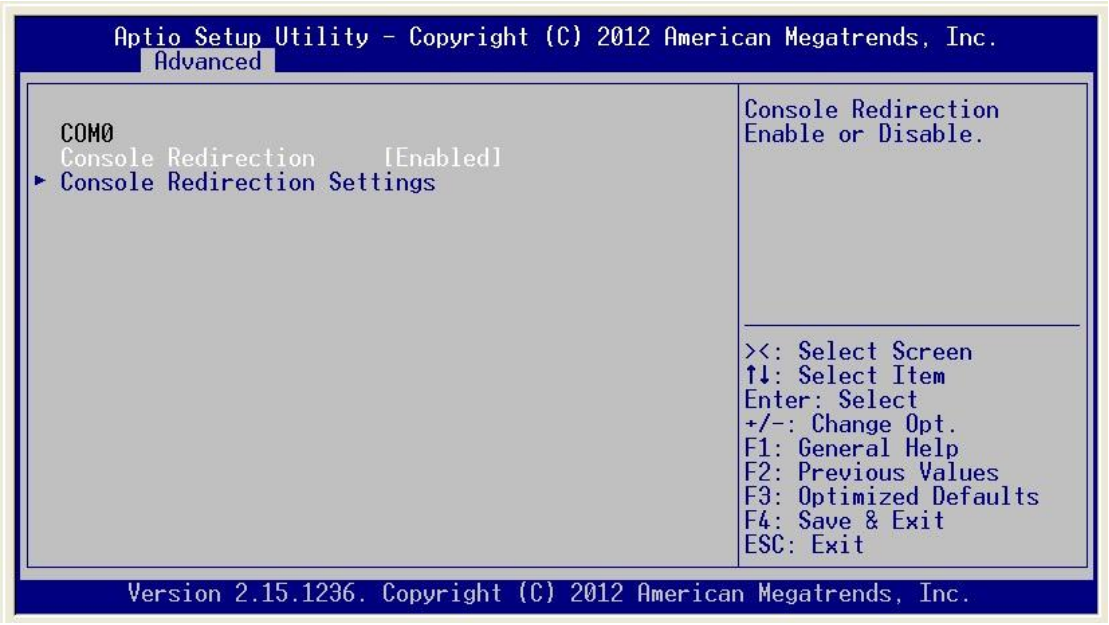
This screen displays the temperature of system and CPU, cooling fan speed in RPM and system voltages (VCORE, +1.5V and +12V).



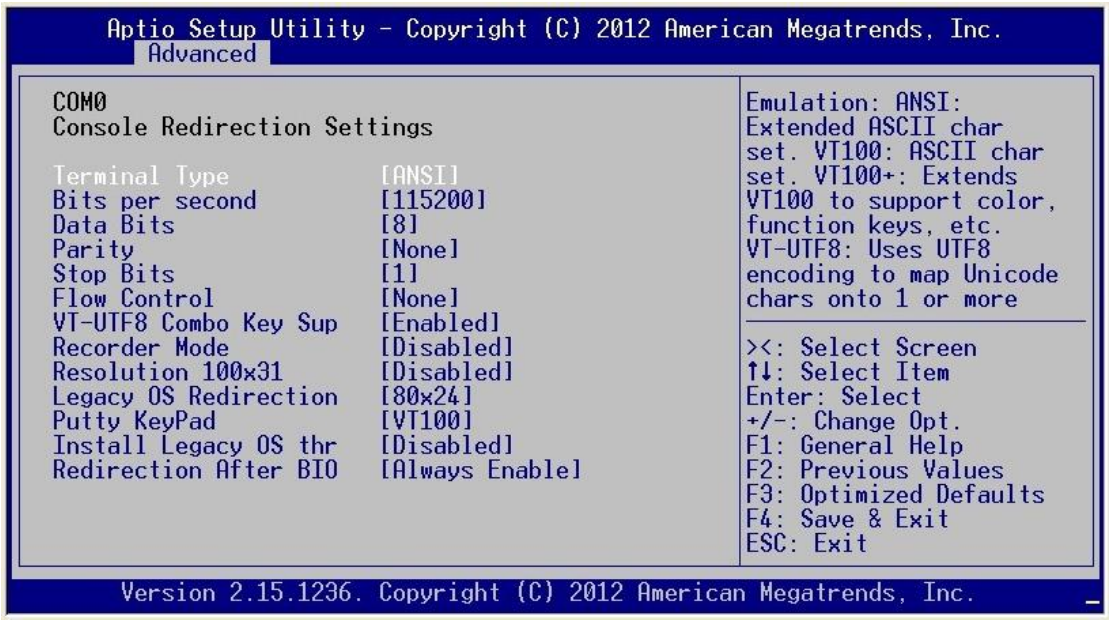
- **Serial Port Console Redirection**

➢ **Console Redirection**

Use this item to enable or disable console redirection. The settings specify how the host computer and remote computer (which the user is using) will exchange data. Both computers should have the same or compatible setting.



➢ **Console Redirection Settings**

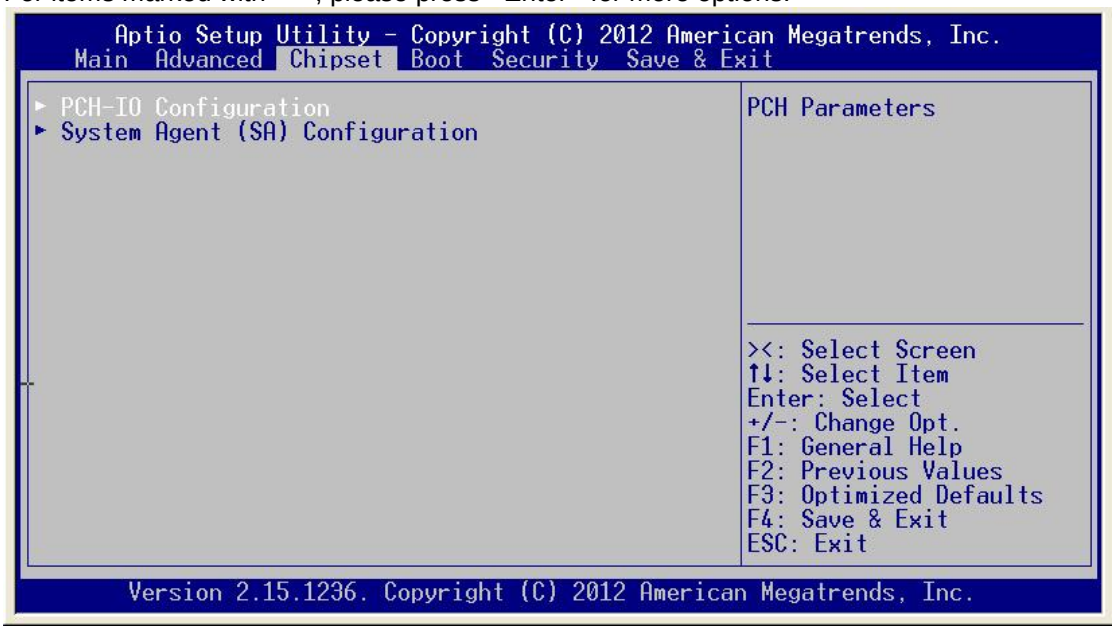


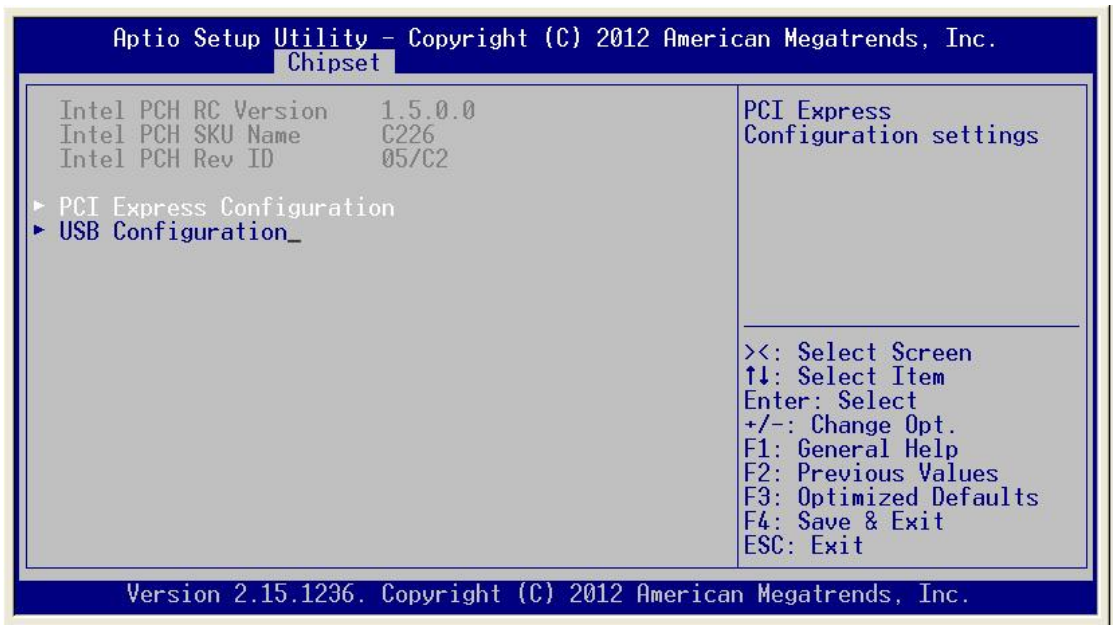
3.5 Chipset Menu

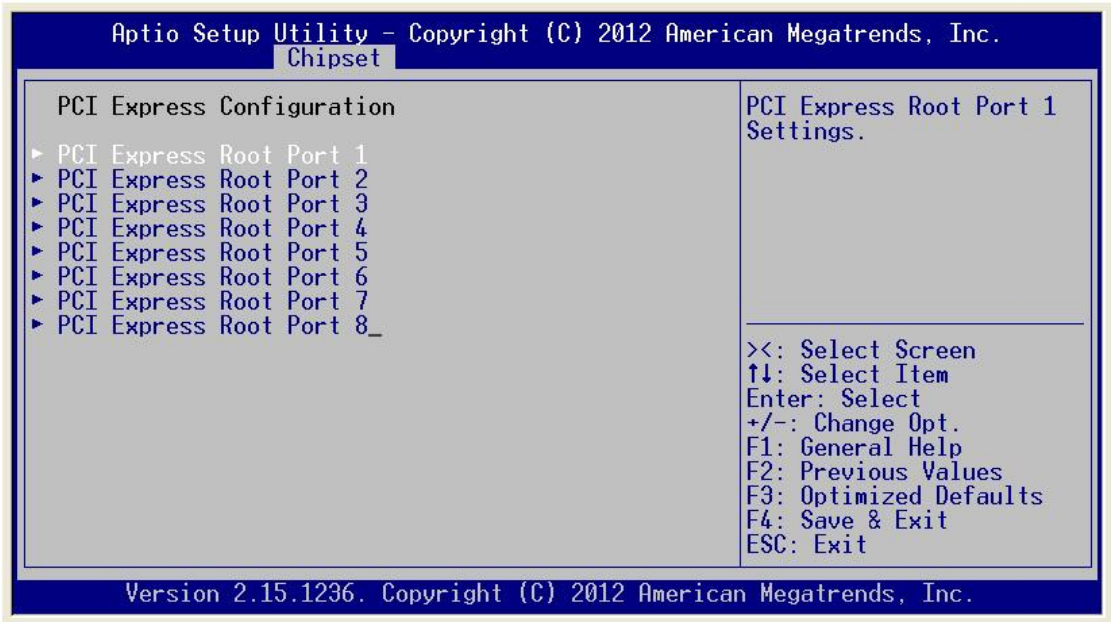
The Chipset menu allows users to change the advanced chipset settings. You can select any of the items in the left frame of the screen to go to the sub menus:

- ► PCH-IO Configuration
- ► System Agent (SA) Configuration

For items marked with "►", please press <Enter> for more options.

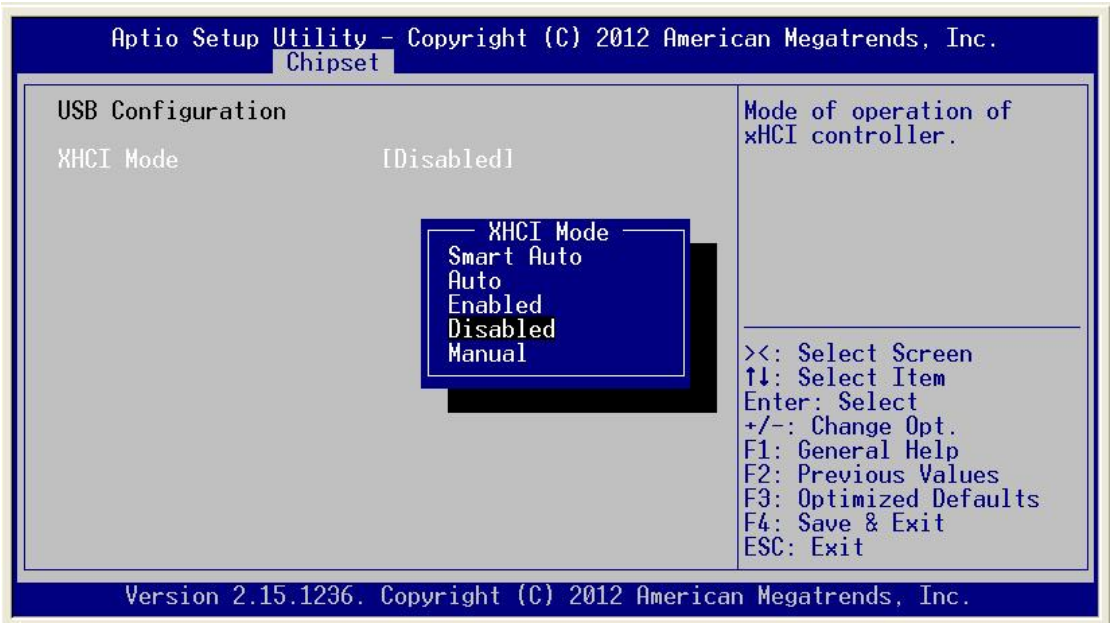


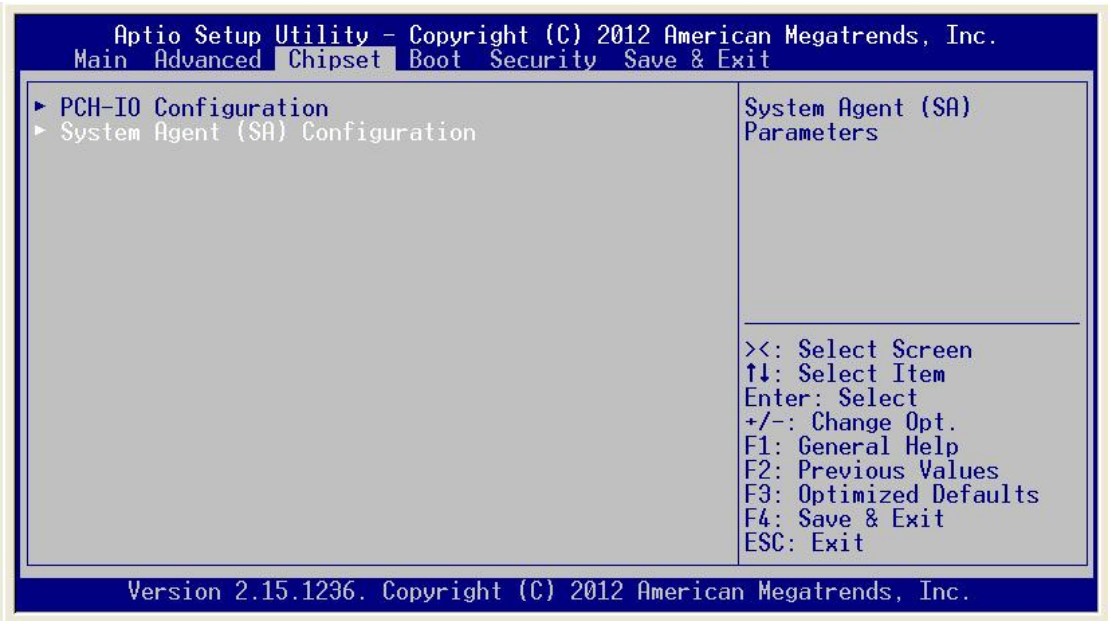




- **XHCI Mode**

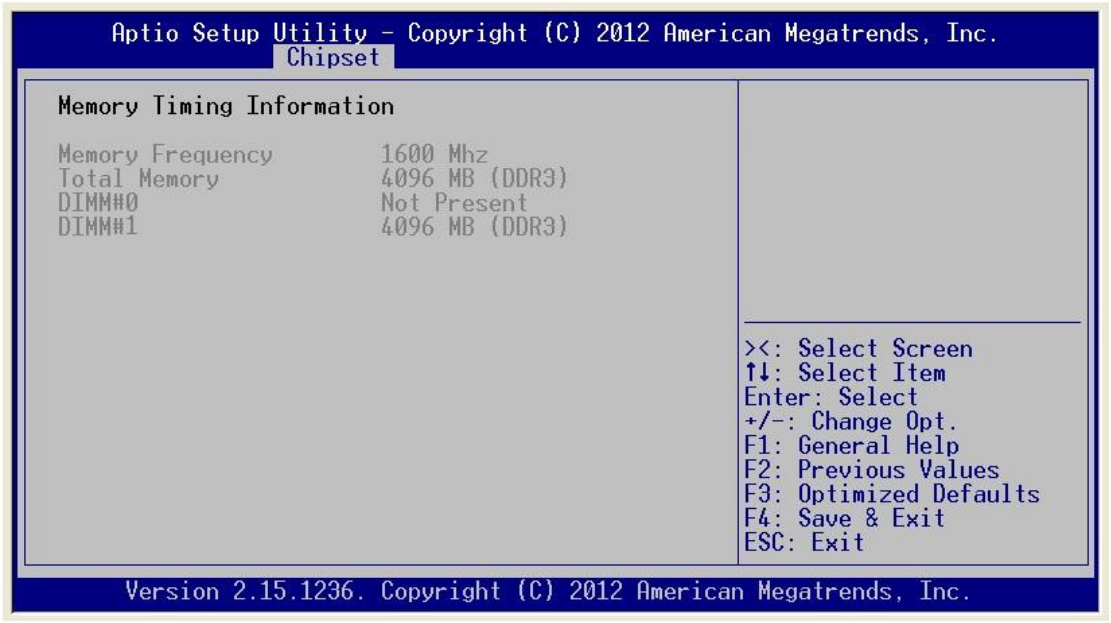
The extensible Host Controller Interface (xHCI) is the newest host controller standard that provides improvements in speed, power efficiency and virtualization over its predecessors. The specification is developed and released by Intel to the industry with the goal of defining a USB host controller to replace UHCI/OHCI/EHCI. It supports all USB device speeds (USB 3.0 SuperSpeed, USB 2.0 Low-, Full-,and High-speed). You could choose Smart Auto / Auto / Enabled / Disabled /Manual.





- **Memory Information**

This screen allows users to configure parameters of North Bridge Chipset.



3.6 Boot Menu

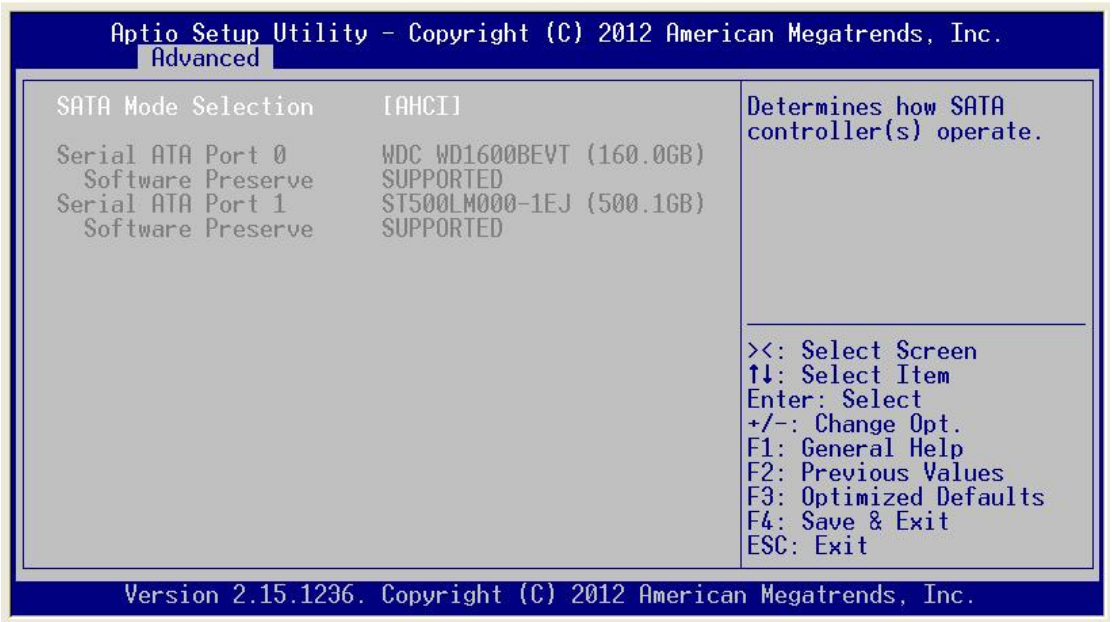
The Boot menu allows users to change boot options of the system.

- **Setup Prompt Timeout**

Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.

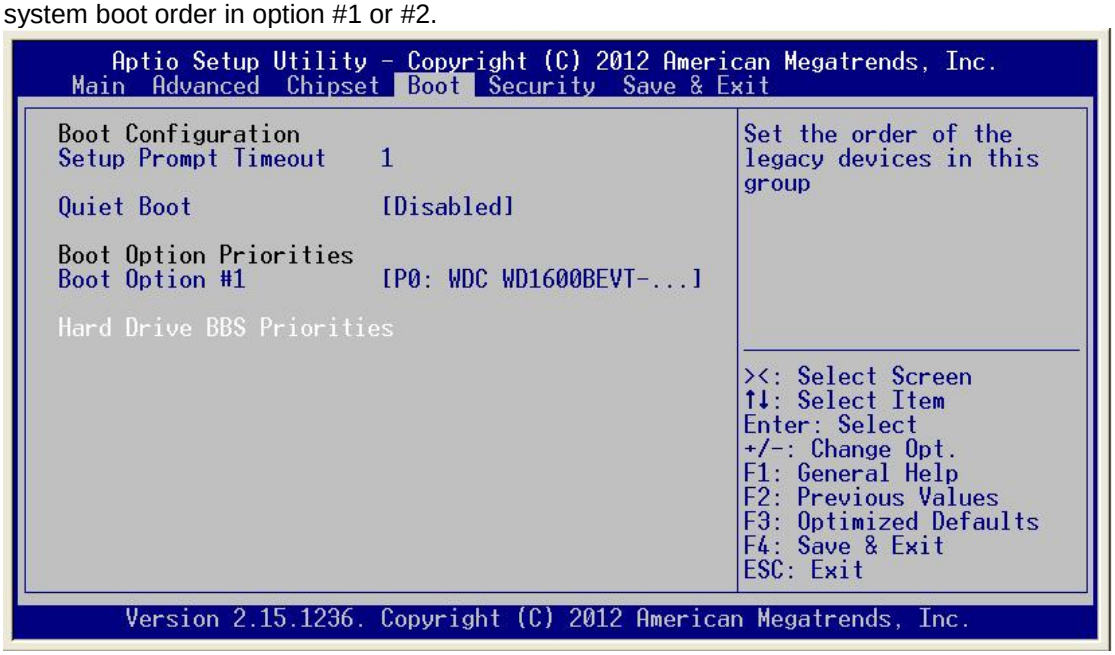
- **Quiet Boot**

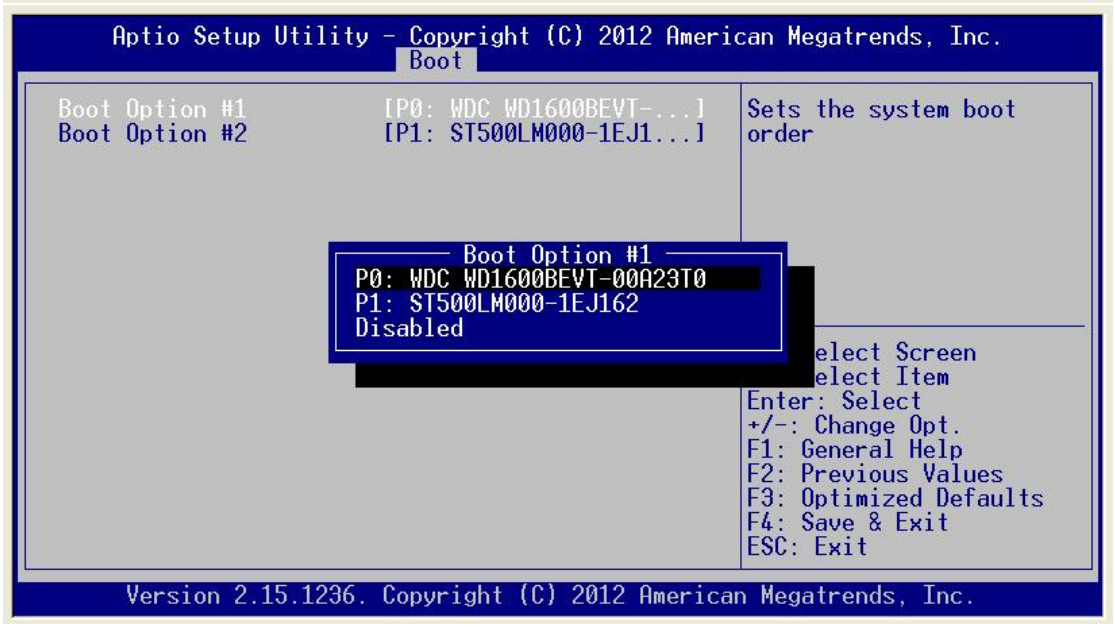
Use this item to enable or disable the Quite Boot state. The default setting is disabling.



- **Boot Option Priorities**

You could set the system boot order of the legacy devices in this group. You could sets the system boot order in option #1 or #2.



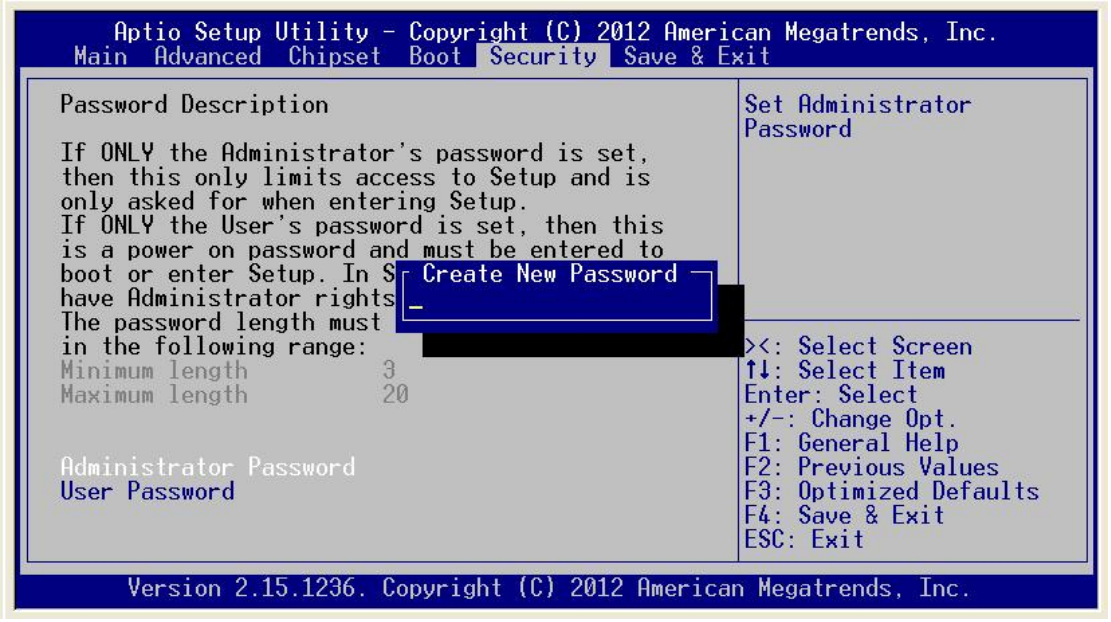


3.7 Security Menu

The Security menu allows users to change the security settings for the system.

- **Administrator Password**

This item indicates whether an administrator password has been set. If the password has been installed, Installed displays. If not, Not Installed displays.



- **User Password**

This item indicates whether an user password has been set. If the password has been installed, Installed displays. If not, Not Installed displays.

3.8 Save & Exit Menu

The Save & Exit menu allows users to load your system configuration with optimal or fail-safe default values.

- **Save Changes and Exit**

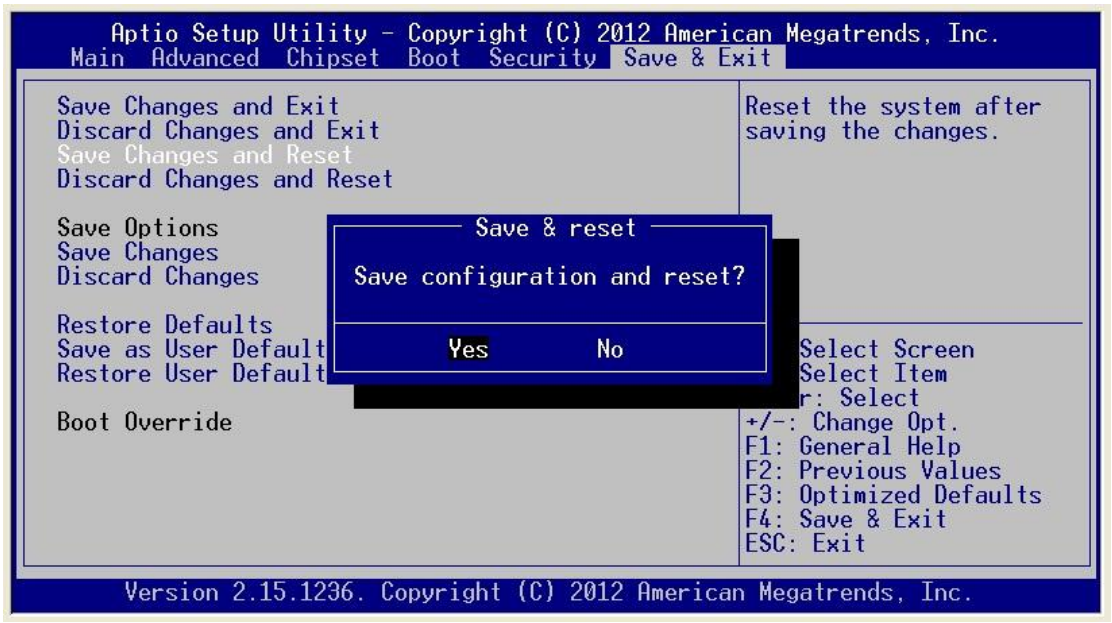
When you have completed the system configuration changes, select this option to leave Setup and return to Main Menu. Select Save Changes and Exit from the Save & Exit menu and press <Enter>. Select Yes to save changes and exit.

- **Discard Changes and Exit**

Select this option to quit Setup without making any permanent changes to the system configuration and return to Main Menu. Select Discard Changes and Exit from the Save & Exit menu and press <Enter>. Select Yes to discard changes and exit.

- **Save Changes and Reset**

When you have completed the system configuration changes, select this option to leave Setup and reboot the computer so the new system configuration parameters can take effect. Select Save Changes and Reset from the Save & Exit menu and press <Enter>. Select Yes to save changes and reset.

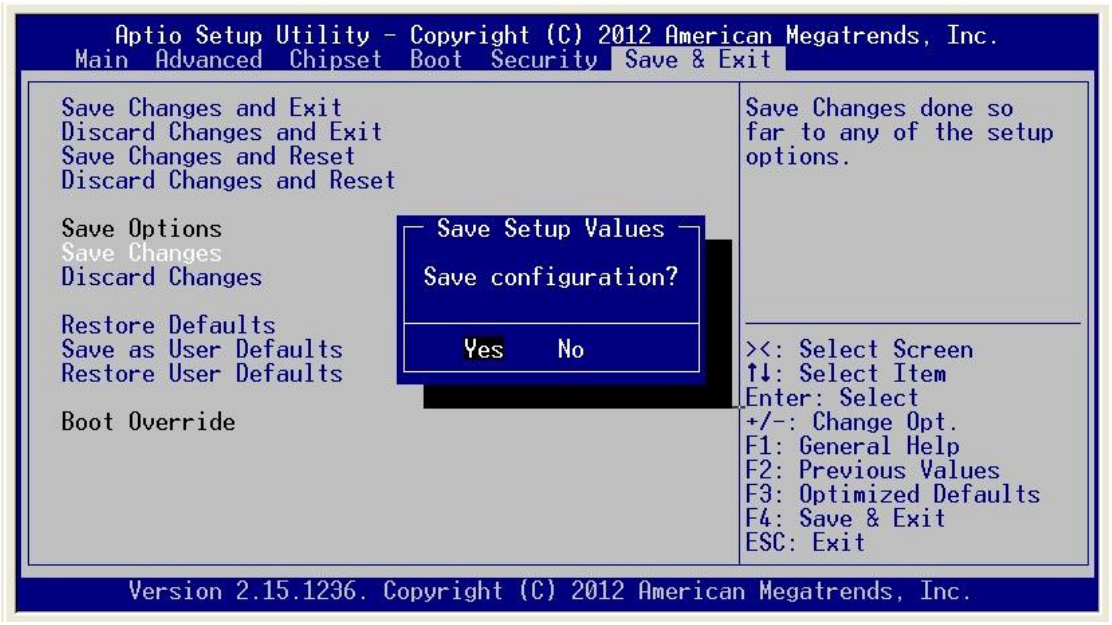


- **Discard Changes and Reset**

Select this option to quit Setup without making any permanent changes to the system configuration and reboot the computer. Select Discard Changes and Reset from the Save & Exit menu and press <Enter>. Select Yes to discard changes and reset.

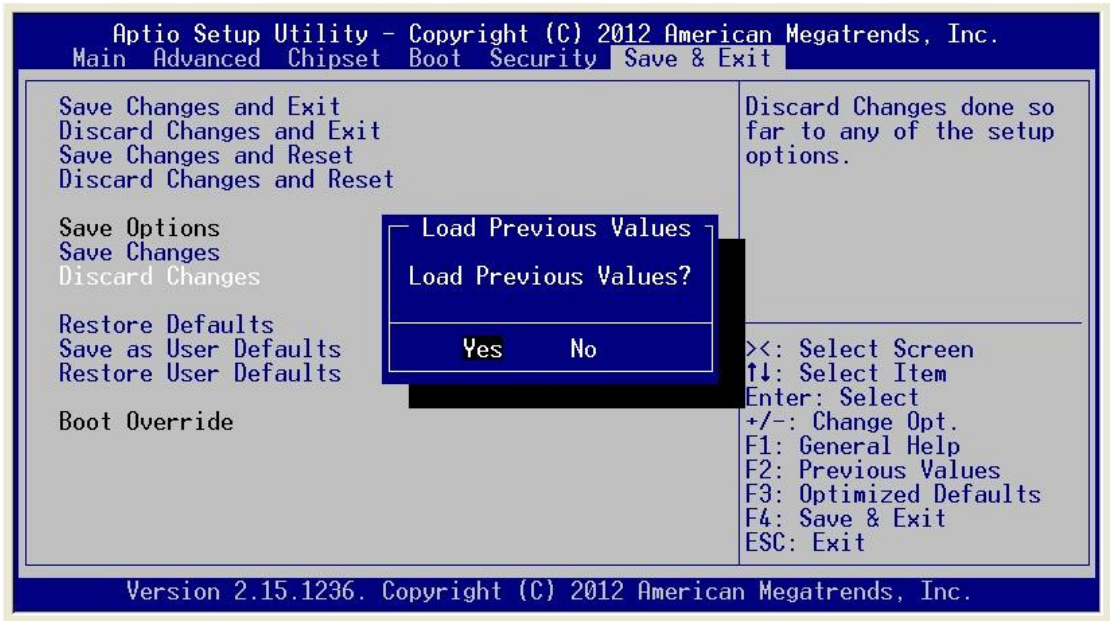
- **Save Changes**

When you have completed the system configuration changes, select this option to save changes. Select Save Changes from the Save & Exit menu and press <Enter>. Select Yes to save changes.



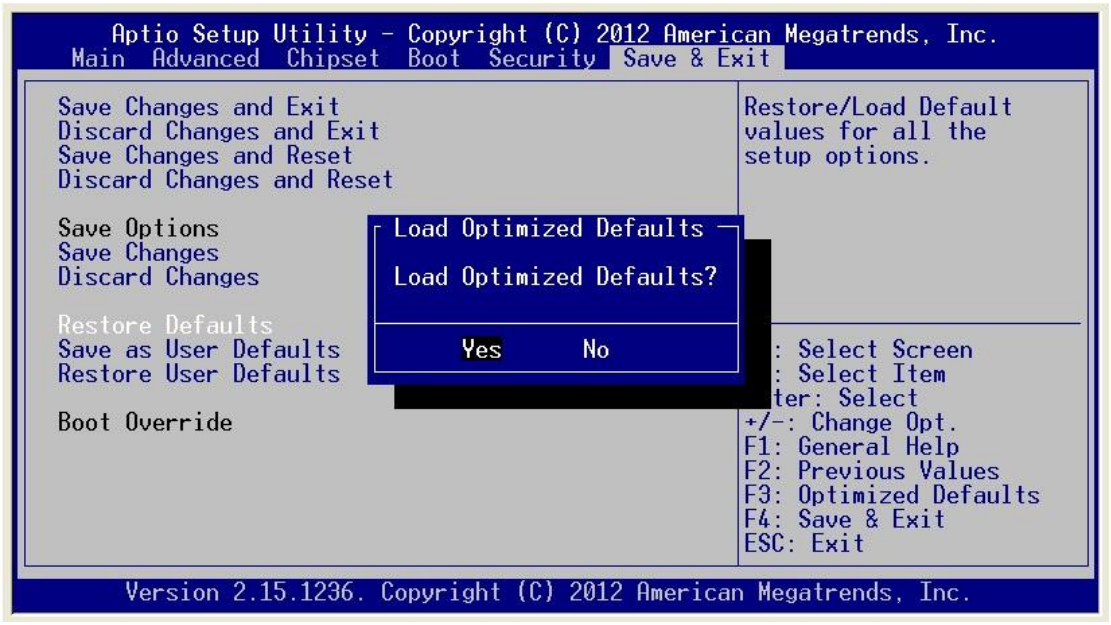
- **Discard Changes**

Select this option to quit Setup without making any permanent changes to the system configuration. Select Discard Changes from the Save & Exit menu and press <Enter>. Select Yes to discard changes.



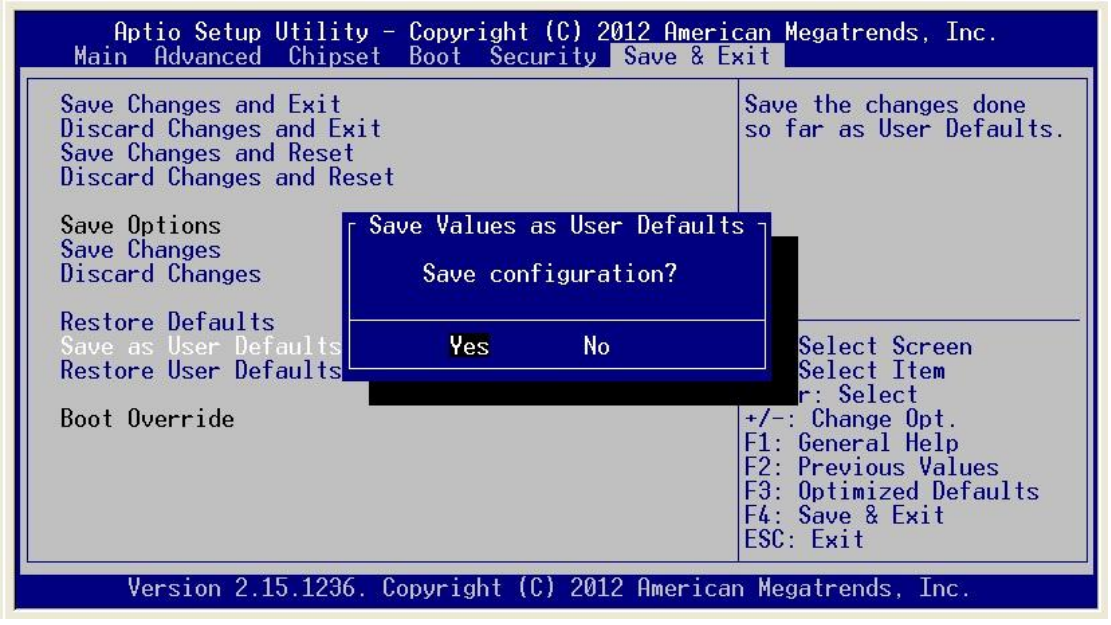
- **Restore Defaults**

It automatically sets all Setup options to a complete set of default settings when you select this option. The Optimal settings are designed for maximum system performance, but may not work best for all computer applications. In particular, do not use the Optimal Setup options if your computer is experiencing system configuration problems. Select Restore Defaults from the Save & Exit menu and press <Enter>.



- **Save as User Defaults**

Select this option to save system configuration changes done so far as User Defaults. Select Save as User Defaults from the Save & Exit menu and press <Enter>.



- **Restore User Defaults**

It automatically sets all Setup options to a complete set of User Defaults when you select this option. Select Restore User Defaults from the Save & Exit menu and press <Enter>.

Appendix A
LAN Bypass Configuration

About LAN Bypass

In network security application, it is very important to ensure that network traffic to continue passing through the device even if hardware failure occurs or operating system crashes. LAN bypass gives us a solution for this problem.

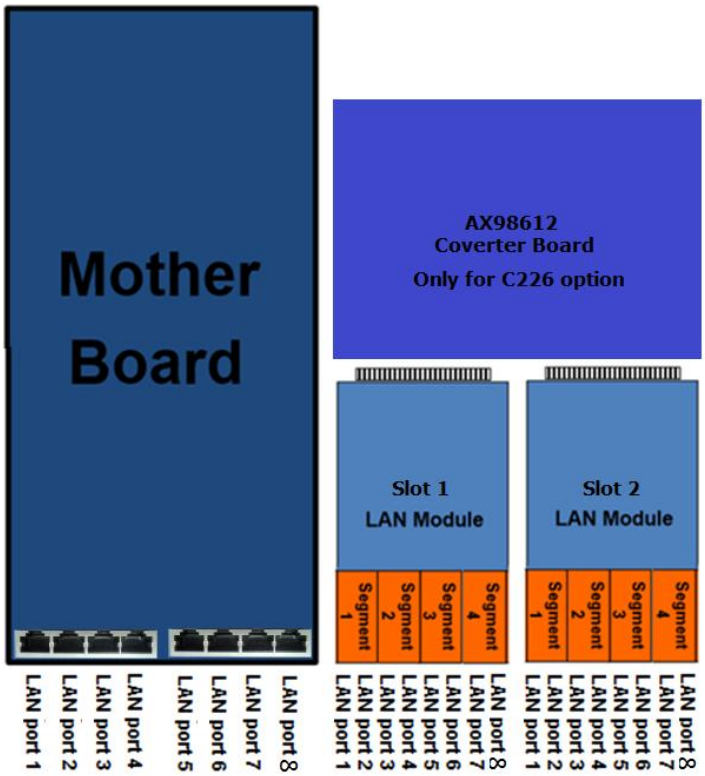
The NA570 series LAN bypass function is very flexible. It can be selected at any time and any stage. You can enable LAN bypass for power on state by BIOS, or by software program when entering into the OS.

Moreover, for power off state, you can set up LAN Bypass through BIOS, or use software program when entering into the OS. If you don't do any change, the state will keep the previous power off state.

The NA570 has LAN bypass capability with the special designed latch relay circuitry. When LAN bypass function is enabled, a relay closes to act as a bridge to route network data flow between LAN module's slot 1 and slot 2 (for NA570 option) or LAN module's slot 1 (for NA570L option), see below image. The bypass feature can be activated immediately or according to timer which is configurable from 1 up to 64 seconds. You can write a software program to control bypass operation behavior to fit your requirement. A LAN bypass sample program is provided in CD for reference.

Note: ***The sample codes for the above features can be found in the CD, and they are for reference purposes only.***

NA570: LAN Bypass Register Configuration



- **Power ON Bypass Control Register**

Address:

Mother board	LAN module Slot 1	LAN module Slot 2
0x8E0	0x8E4	0x8E8

7	6	5	4	3	2	1	0
BYM1	**BYM0**	**X**	**X**	**SEGN4**	**SEGN3**	**SEGN2**	**SEGN1**
W	W	--	--	W	W	W	W

Default value: 00000000

Bit 7~6 BYM1~0
These bits are used to set bypass mode.
00 Not used.
01 Force bypass enable
Relay closes immediately to form LAN bypass on selected segment when power on.
10 Force bypass disable
LAN bypass is disabled immediately on selected segment when power on.
11 Timer enable
When power on, the selected segments are controlled by the setting of LAN bypass Timer Control register.

Bit 5~4 Not used.

Bits 3~0 SEGN4~1
Select each segment by setting the corresponding bit to 1. When the bit is set to 0, no action happens upon the segment.

Data read back from this register is not defined and therefore must be ignored. Reading from this register makes no effect on LAN bypass function. All data in this register will be cleared when system is turned off. If you still want to use power on LAN bypass function, turn on the system and make sure to rewrite the register. Otherwise, if you don't rewrite the register, the status will be kept on power off bypass state.

- **Power OFF Bypass Control Register**

Address:

Mother board	LAN module Slot 1	LAN module Slot 2
0x8E1	**0x8E5**	**0x8E9**

7	6	5	4	3	2	1	0
X	**X**	**X**	**X**	**SEGF4**	**SEGF3**	**SEGF2**	**SEGF1**
--	--	--	--	W	W	W	W

Default value: 00000000

Bit 7~4 Not used.

Bits3~0 SEGF4~1
Use the corresponding bit to configure each segment. Setting the bit to 1 enables LAN bypass on the segment when power off. Clearing the bit to 0 disables LAN bypass on the segment when power off.

Data read back from this register is not defined and therefore must be ignored. Reading from this register makes no effect on LAN bypass function. When system is turned off, last data written onto this register will be kept. If you want to make any change, turn on the system and make sure to reconfigure the register.

- **LAN Bypass Timer Control Register**

Address:

Mother board	LAN module Slot 1	LAN module Slot 2
0x8E2	**0x8E6**	**0x8EA**

7	6	5	4	3	2	1	0
TEXP	**X**	**X**	**X**	**X**	**TVAL2**	**TVAL1**	**TVAL0**
R	--	--	--	--	W	W	W

Default value: 00000000

Bit 7 TEXP (Read Only)
This bit indicates status of hardware timer.
0 Timer has not expired
1 Timer has expired

Bits 6~3 Not used.

Bits 2~0 TVAL2~0

These bits determine the amount of count value in second(s).

001 1 (sec)
010 2 (sec)
011 4 (sec)
100 8 (sec)
101 16 (sec)
110 32 (sec)
111 64 (sec)
000 Timer is not activated.

Writing a value to these bits will reset the hardware timer. The counting process begins again according to the new written value. Software must write count value periodically to ensure that timer will never expire. If timer timeout occurs, relay(s) automatically close to form LAN bypass on selected segment(s) based on the setting of Power On Bypass Control register (SEGN4~SEGN1).

Data (bits 6~0) read back from this register is not defined and therefore must be ignored. A read operation upon this register should not refresh the hardware timer.

- **LAN Bypass Status / Firmware Version Register**

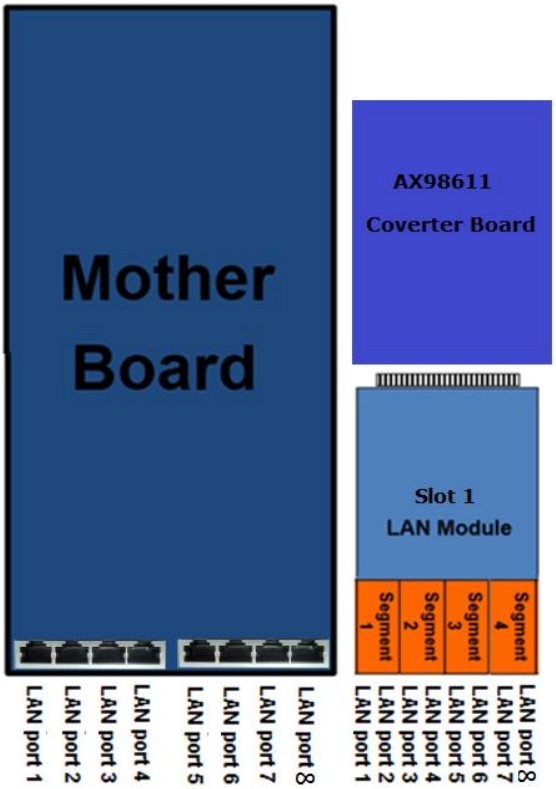
Address:

Mother board	LAN module Slot 1	LAN module Slot 2
0x8E3	**0x8E7**	**0x8EB**

7	6	5	4	3	2	1	0
VER3	**VER2**	**VER1**	**VER0**	**BY4**	**BY3**	**BY2**	**BY1**
R	R	R	R	R	R	R	R

Bit3~0 Lan Bypass Seg.1 status ➔ Disable=0; Enable=1
Bit 7~4 Firmware version
Without Lan bypass function=1111

NA570L : LAN Bypass Register Configuration



- **Power ON Bypass Control Register**

Address:

Mother board	LAN module
0x8E0	0x8E4

7	6	5	4	3	2	1	0
BYM1	**BYM0**	**X**	**X**	**SEGN4**	**SEGN3**	**SEGN2**	**SEGN1**
W	W	--	--	W	W	W	W

Default value: 00000000

Bit 7~6 BYM1~0
These bits are used to set bypass mode.
00 Not used.
01 Force bypass enable
Relay closes immediately to form LAN bypass on selected segment when power on.
10 Force bypass disable
LAN bypass is disabled immediately on selected segment when power on.
12 Timer enable
When power on, the selected segments are controlled by the setting of LAN bypass Timer Control register.

Bit 5~4 Not used.

Bits 3~0 SEGN4~1
Select each segment by setting the corresponding bit to 1. When the bit is set to 0, no action happens upon the segment.

Data read back from this register is not defined and therefore must be ignored. Reading from this register makes no effect on LAN bypass function. All data in this register will be cleared when system is turned off. If you still want to use power on LAN bypass function, turn on the system and make sure to rewrite the register. Otherwise, if you don't rewrite the register, the status will be kept on power off bypass state.

- **Power OFF Bypass Control Register**

Address:

Mother board	LAN module
0x8E1	**0x8E5**

7	6	5	4	3	2	1	0
X	**X**	**X**	**X**	**SEGF4**	**SEGF3**	**SEGF2**	**SEGF1**
--	--	--	--	W	W	W	W

Default value: 00000000

Bit 7~4 Not used.

Bits3~0 SEGF4~1
Use the corresponding bit to configure each segment. Setting the bit to 1 enables LAN bypass on the segment when power off. Clearing the bit to 0 disables LAN bypass on the segment when power off.

Data read back from this register is not defined and therefore must be ignored. Reading from this register makes no effect on LAN bypass function. When system is turned off, last data written onto this register will be kept. If you want to make any change, turn on the system and make sure to reconfigure the register.

- **LAN Bypass Timer Control Register**

Address:

Mother board	LAN module
0x8E2	**0x8E6**

7	6	5	4	3	2	1	0
TEXP	**X**	**X**	**X**	**X**	**TVAL2**	**TVAL1**	**TVAL0**
R	--	--	--	--	W	W	W

Default value: 00000000

Bit 7 TEXP (Read Only)
This bit indicates status of hardware timer.
0 Timer has not expired
1 Timer has expired

Bits 6~3 Not used.

Bits 2~0 TVAL2~0
These bits determine the amount of count value in second(s).
001 1 (sec)
010 2 (sec)
011 4 (sec)
100 8 (sec)
101 16 (sec)
110 32 (sec)
111 64 (sec)
000 Timer is not activated.

Writing a value to these bits will reset the hardware timer. The counting process begins again according to the new written value. Software must write count value periodically to ensure that timer will never expire. If timer timeout occurs, relay(s) automatically close to form LAN bypass on selected segment(s) based on the setting of Power On Bypass Control register (SEGN4~SEGN1).

Data (bits 6~0) read back from this register is not defined and therefore must be ignored. A read operation upon this register should not refresh the hardware timer.

- **LAN Bypass Status / Firmware Version Register**

Address:

Mother board	LAN module
0x8E3	**0x8E7**

7	6	5	4	3	2	1	0
VER3	**VER2**	**VER1**	**VER0**	**BY4**	**BY3**	**BY2**	**BY1**
R	R	R	R	R	R	R	R

Bit3~0 Lan Bypass Seg.1 status ➔ Disable=0; Enable=1
Bit 7~4 Firmware version
Without Lan bypass function=1111

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Appendix B
WDT Timer for System Reset

WDT (Watchdog Timer)
The hardware supports the WDT (Watchdog Timer) function. While time-out happens after a defaulted period, the WDT will reset the system.

Note : The sample codes for the above features can be found in the CD, and they are only for customers' reference as remarked.

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Appendix C
LAN Module Expansion

You can install LAN module(s) into NA570's front-accessible expansion slots to meet your application requirement. Here are some LAN module configurations for your selection:

8-port LAN Module

	LAN Chipset/Qty	Number of Ports	LAN Bypass Pairs (Latch Relay)	Copper/ Fiber (SFP)
AX93316-8GI	Intel® 82580EB/4	8	0	8/0
AX93322-8FI	Intel® 82580EB/4	8	0	0/8
AX93322-8MIL	Intel® 82580EB/4	8	2	4/4
AX93316-8GIL	Intel® 82580EB/4	8	4	8/0

AX93316-8GIL

AX93322-8FI

AX93322-8MIL

2-port 10G LAN Module

	LAN Chipset	Number of Ports	LAN Bypass Pairs (Latch Relay)	Copper/ Fiber (SFP)
AX93307	Intel® 82599ES	2	1	0/2
AX93317	Intel® x540	2	1	2/0

AX93307-2TI

AX93307-2TIL

AX93317-2TIL

LAN Bypass Control Jumper (JP2/JP3)

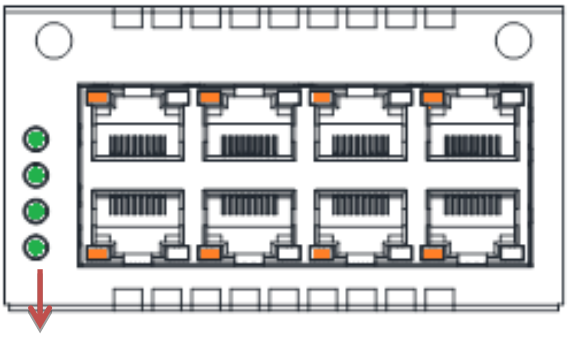
Use this jumper to select the LAN Bypass Function .

Description	Function	Jumper
LAN Bypass Trigger when Power On	All SEG. Bypass as same as Power Off status	JP3  JP2 
	All SEG Bypass Disable(Default)	JP3  JP2 
	All SEG Bypass Enable	JP3  JP2 

Note: ***When the system is turned on, you can select LAN bypass function by Jumper and Bios when power on state, when enter the OS,you can select LAN pass function at power on/ off state by software ,the detail information please refer to the appendix A.***

LED Definition

AX93316/AX93326



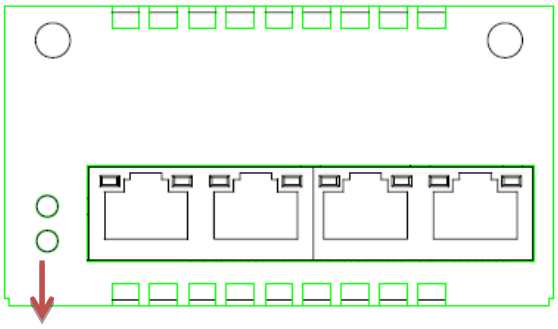
LAN bypass LED

- **LAN bypass LED**
  While running the LAN By-Pass function, the LED always lights up.
- **Active LED (Single color)for for LAN port #1, port#2, port#3, port#4, port #5, port#6, port#7, port#8**
  - The orange LED is on when the LAN port connection is working.
  - The LED flashes when transmitting or receiving any signals to or from the appliance.
  - The LED is dark when the appliance is off.
- **Link LED for LAN port #1, port#2, port#3, port#4, port#5 and port#6, port#7, port#8**
  - The double-color LED light indicates 10/100/1000Mbps transfer rate.
  - When the orange-color LED light is radiating, it should be 1000Mbps transfer rate.
  - When the green-color LED light is radiating, it should be 100Mbps transfer rate.
  - If the Link LED is dark and Active LED is light on or flashing, it should be 10Mbps transfer rate.

When this LED and Link/Active LED both are dark. No networking devices are attached

Transfer Rate	LED Light Color
10Mbps	Dark
100Mbps	Green
1000Mbps	Orange

AX93336-4GIL



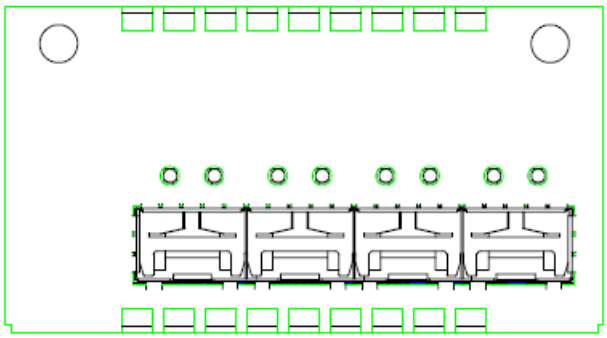
LAN bypass LED

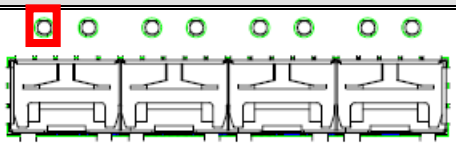
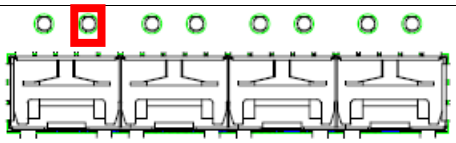
- **LAN bypass LED**
  While running the LAN By-Pass function, the LED always lights up.
- **Active LED (Single color)for for LAN port #1, port#2, port#3, port#4**
  - The orange LED is on when the LAN port connection is working.
  - The LED flashes when transmitting or receiving any signals to or from the appliance.
  - The LED is dark when the appliance is off.
- **Link LED for LAN port #1, port#2, port#3, port#4**
  - The double-color LED light indicates 10/100/1000Mbps transfer rate.
  - When the orange-color LED light is radiating, it should be 1000Mbps transfer rate.
  - When the green-color LED light is radiating, it should be 100Mbps transfer rate.
  - If the Link LED is dark and Active LED is light on or flashing, it should be 10Mbps transfer rate.

When this LED and Link/Active LED both are dark. No networking devices are attached

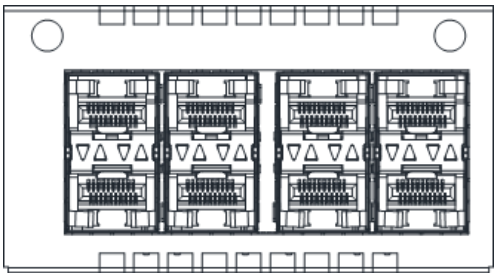
Transfer Rate	LED Light Color
10Mbps	Dark
100Mbps	Green
1000Mbps	Orange

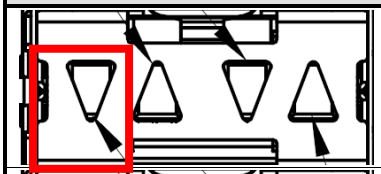
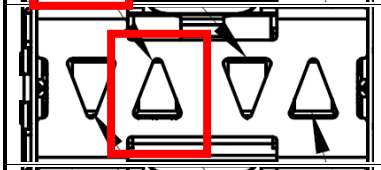
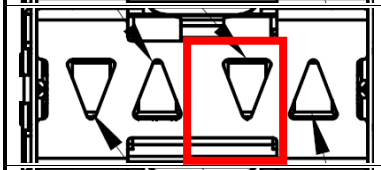
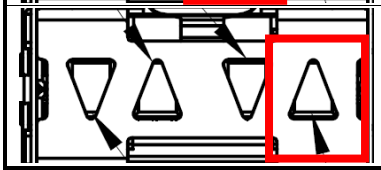
AX93336-4FI



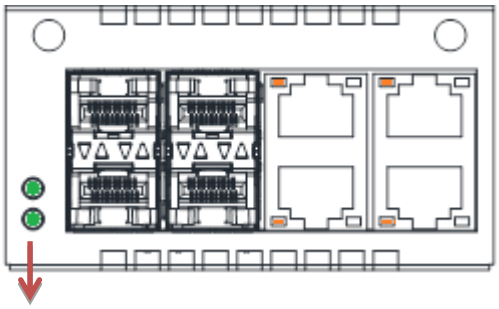
Transfer Rate	LED Light Color
	Fiber port Active: Orange
	Fiber port Link: Orange

AX93322-8FI



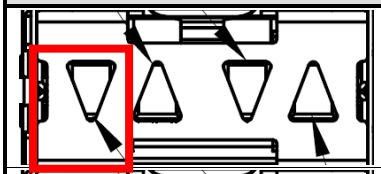
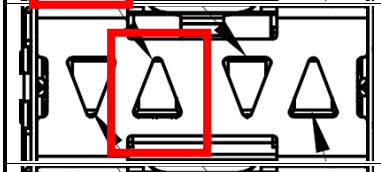
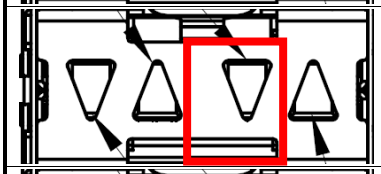
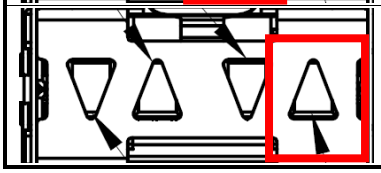
Transfer Rate	LED Light Color
	Down Fiber port Active: Orange
	Up Fiber port Active: Orange
	Down Fiber port Link: Orange
	Up Fiber port Link: Orange

AX93322-8MIL



LAN bypass LED

FIBER:

Transfer Rate	LED Light Color
	Down Fiber port Active: Orange
	Up Fiber port Active: Orange
	Down Fiber port Link: Orange
	Up Fiber port Link: Orange

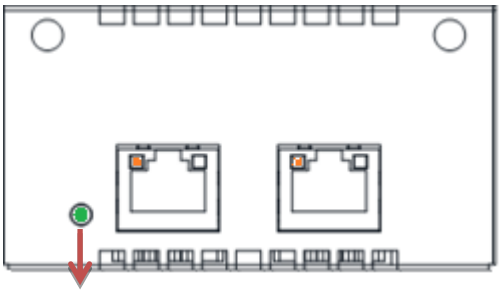
Copper:

- **LAN bypass LED**
  While running the LAN By-Pass function, the LED always lights up.
- **Active LED (Single color)for for LAN port #1, port#2, port#3, port#4**
  - The orange LED is on when the LAN port connection is working.
  - The LED flashes when transmitting or receiving any signals to or from the appliance.
  - The LED is dark when the appliance is off.
- **Link LED for LAN port #1, port#2, port#3, port#4**
  - The double-color LED light indicates 10/100/1000Mbps transfer rate.
  - When the orange-color LED light is radiating, it should be 1000Mbps transfer rate.
  - When the green-color LED light is radiating, it should be 100Mbps transfer rate.
  - If the Link LED is dark and Active LED is light on or flashing, it should be 10Mbps transfer rate.

When this LED and Link/Active LED both are dark. No networking devices are attached

Transfer Rate	LED Light Color
10Mbps	Dark
100Mbps	Green
1000Mbps	Orange

AX93317



LAN bypass LED

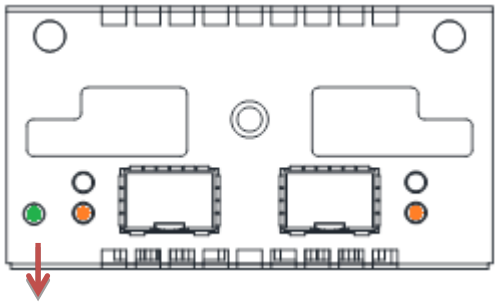
- **LAN bypass LED**
  While running the LAN By-Pass function, the LED always lights up.
- **Active LED (Single color)for for LAN port #1, port#2**
  - The orange LED is on when the LAN port connection is working.
  - The LED flashes when transmitting or receiving any signals to or from the appliance.
  - The LED is dark when the appliance is off.
- **Link LED for LAN port #1, port#2**
  - The double-color LED light indicates 1000/10000Mbps transfer rate.
  - When the orange-color LED light is radiating, it should be 10000Mbps transfer rate.
  - When the green-color LED light is radiating, it should be 1000Mbps transfer rate.

When this LED and Link/Active LED both are dark. No networking devices are attached

Transfer Rate	LED Light Color
1000Mbps	Green
10000Mbps	Orange

Note: ***10G LAN module will be suggested installed in Slot 1 or Slot 2.***

AX93307



LAN bypass LED

- **LAN bypass LED**
  While running the LAN By-Pass function, the LED always lights up.
- **Active LED (Single color)for for LAN port #1, port#2**
  - The orange LED is on when the LAN port connection is working.
  - The LED flashes when transmitting or receiving any signals to or from the appliance.
  - The LED is dark when the appliance is off.
- **Link LED for LAN port #1, port#2**
  - The double-color LED light indicates 1000/10000Mbps transfer rate.
  - When the orange-color LED light is radiating, it should be 10000Mbps transfer rate.
  - When the green-color LED light is radiating, it should be 1000Mbps transfer rate.

When this LED and Link/Active LED both are dark. No networking devices are attached

Transfer Rate	LED Light Color
1000Mbps	Green
10000Mbps	Orange

Note: ***10G LAN module will be suggested installed in Slot 1 or Slot 2.***

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Appendix D
Warning

- This is a class A Product. In a domestic Environment this Product may cause radio interference in which case the user may be required to take adequate measures.

- It will be danger if battery is incorrectly replaced. Replacing only with the same or equivalent type is highly recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

- **Warning for Hard Disk Drive Selection:**
  TUV approved Hard Disk Drive is preferred for TUV compliance Hard Disk drive-Optional, (NWGQ2), generic, Input Voltage rated 5V DC/1.0A, 12V DC/1.8A maximum. Minimum clearance from uninsulated live parts 4.0 mm.

- The equipment is to be installed in an environment with maximum ambient temperature must not exceed 40°C
- The openings on the enclosure are for air convection hence protected the equipment from overheating. DO NOT COVER THE OPENINGS.
- Lay this equipment on a reliable surface when install. A drop or fall could cause injury.
- The equipment shall be installed according to specification as nameplate. Make sure the voltage of the power source when connect the equipment to the power outlet.
- The current of load and output power of loads shall be not over the specification.
- This equipment must be connected to the reliable earthling before using.

Electric shock hazard inside the redundant power supply.
The exchange of modules shall be done by service person.

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Axiomtek:

AX98611 I/O board for NA570 1slot AX98612 Riser Card for NA570 2slot SFP