



Network Computing

Hardware Platforms for Network Computing

NCA-1010 User Manual

Version: 1.5

Date of Release: 2019/03/22

Icon Descriptions

The icons are used in the manual to serve as an indication of interest topics or important messages. Below is a description of these icons:



Note: This check mark indicates that there is a note of interest and is something that you should pay special attention to while using the product.



Warning: This exclamation point indicates that there is a caution or warning and it is something that could damage your property or product.

Online Resources

The listed websites are links to the on-line product information and technical support.

Resources	URL
Lanner	http://www.lannerinc.com
Product Resource	http://www.lannerinc.com/download-center
RMA	http://eRMA.lannerinc.com

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Compliances

CE

This product has passed the CE test for environmental specifications. Test conditions for passing included the equipment being operated within an industrial enclosure. In order to protect the product from being damaged by ESD (Electrostatic Discharge) and EMI leakage, we strongly recommend the use of CE-compliant industrial enclosure products.

FCC Class B

This equipment has been tested and found to comply with the limits for a Class B digital device.

EMC Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the 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 instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case users will be required to correct the interference at their own expense.

Safety Guidelines

Follow these guidelines to ensure general safety:

- ▶ Keep the chassis area clear and dust-free during and after installation.
- ▶ Do not wear loose clothing or jewelry that could get caught in the chassis. Fasten your tie or scarf and roll up your sleeves.
- ▶ Wear safety glasses if you are working under any conditions that might be hazardous to your eyes.
- ▶ Do not perform any action that creates a potential hazard to people or makes the equipment unsafe.
- ▶ Disconnect all power by turning off the power and unplugging the power cord before installing or removing a chassis or working near power supplies
- ▶ Do not work alone if potentially hazardous conditions exist.
- ▶ Never assume that power is disconnected from a circuit; always check the circuit.

Lithium Battery Caution:

Risk of Explosion if Battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

- ▶ Installation only by a trained electrician or only by an electrically trained person who knows all English Installation and Device Specifications which are to be applied.
- ▶ Do not carry the handle of power supplies when moving to another place.
- ▶ The machine can only be used in a fixed location such as labs or computer facilities.

Operating Safety

- ▶ Electrical equipment generates heat. Ambient air temperature may not be adequate to cool equipment to acceptable operating temperatures without adequate circulation. Be sure that the room in which you choose to operate your system has adequate air circulation.
- ▶ Ensure that the chassis cover is secure. The chassis design allows cooling air to circulate effectively. An open chassis permits air leaks, which may interrupt and redirect the flow of cooling air from internal components.
- ▶ Electrostatic discharge (ESD) can damage equipment and impair electrical circuitry. ESD damage occurs when electronic components are improperly handled and can result in complete or intermittent failures. Be sure to follow ESD-prevention procedures when removing and replacing components to avoid these problems.
- ▶ Wear an ESD-preventive wrist strap, ensuring that it makes good skin contact. If no wrist strap is available, ground yourself by touching the metal part of the chassis.
- ▶ Periodically check the resistance value of the antistatic strap, which should be between 1 and 10 megohms (Mohms).

Consignes de sécurité

Suivez ces consignes pour assurer la sécurité générale :

- ▶ Laissez la zone du châssis propre et sans poussière pendant et après l'installation.
- ▶ Ne portez pas de vêtements amples ou de bijoux qui pourraient être pris dans le châssis. Attachez votre cravate ou écharpe et remontez vos manches.
- ▶ Portez des lunettes de sécurité pour protéger vos yeux.
- ▶ N'effectuez aucune action qui pourrait créer un danger pour d'autres ou rendre l'équipement dangereux.
- ▶ Coupez complètement l'alimentation en éteignant l'alimentation et en débranchant le cordon d'alimentation avant d'installer ou de retirer un châssis ou de travailler à proximité de sources d'alimentation.
- ▶ Ne travaillez pas seul si des conditions dangereuses sont présentes.
- ▶ Ne considérez jamais que l'alimentation est coupée d'un circuit, vérifiez toujours le circuit. Cet appareil génère, utilise et émet une énergie radiofréquence et, s'il n'est pas installé et utilisé

conformément aux instructions des fournisseurs de composants sans fil, il risque de provoquer des interférences dans les communications radio.

Avertissement concernant la pile au lithium

- ▶ Risque d'explosion si la pile est remplacée par une autre d'un mauvais type.
- ▶ Jetez les piles usagées conformément aux instructions.
- ▶ L'installation doit être effectuée par un électricien formé ou une personne formée à l'électricité connaissant toutes les spécifications d'installation et d'appareil du produit.
- ▶ Ne transportez pas l'unité en la tenant par le câble d'alimentation lorsque vous déplacez l'appareil.
- ▶ La machine ne peut être utilisée qu'à un lieu fixe comme en laboratoire, salle d'ordinateurs ou salle de classe.

Sécurité de fonctionnement

- ▶ L'équipement électrique génère de la chaleur. La température ambiante peut ne pas être adéquate pour refroidir l'équipement à une température de fonctionnement acceptable sans circulation adaptée. Vérifiez que votre site propose une circulation d'air adéquate.
- ▶ Vérifiez que le couvercle du châssis est bien fixé. La conception du châssis permet à l'air de refroidissement de bien circuler. Un châssis ouvert laisse l'air s'échapper, ce qui peut interrompre et rediriger le flux d'air frais destiné aux composants internes.
- ▶ Les décharges électrostatiques (ESD) peuvent endommager l'équipement et gêner les circuits électriques. Des dégâts d'ESD surviennent lorsque des composants électroniques sont mal manipulés et peuvent causer des pannes totales ou intermittentes. Suivez les procédures de prévention d'ESD lors du retrait et du remplacement de composants.
- ▶ Portez un bracelet anti-ESD et veillez à ce qu'il soit bien au contact de la peau. Si aucun bracelet n'est disponible, reliez votre corps à la terre en touchant la partie métallique du châssis.
- ▶ Vérifiez régulièrement la valeur de résistance du bracelet antistatique, qui doit être comprise entre 1 et 10 mégohms (Mohms).

Consignes de sécurité électrique

- ▶ Avant d'allumer l'appareil, reliez le câble de mise à la terre de l'équipement à la terre.
- ▶ Une bonne mise à la terre (connexion à la terre) est très importante pour protéger l'équipement contre les effets néfastes du bruit externe et réduire les risques d'électrocution en cas de foudre.
- ▶ Pour désinstaller l'équipement, débranchez le câble de mise à la terre après avoir éteint l'appareil.
- ▶ Un câble de mise à la terre est requis et la zone reliant les sections du conducteur doit faire plus de 4 mm² ou 10 AWG.

Revision History

Version	Date	Descriptions
0.1	2015/03/25	Preliminary
0.2	2015/05/18	Added Appendix
0.3	2015/05/25	<ul style="list-style-type: none"> ▶ Modified specifications ▶ Added safety guidelines
0.4	2015/06/19	Modified power adapter information
0.5	2015/08/11	Modified reset button to “hardware reset only”
0.6	2015/08/31	Added pin assignments
1.0	2016/04/08	Official release
1.1	2016/06/02	Added reset jumper on motherboard due to changes in motherboard design
1.2	2016/06/13	Modified console pin assignments
1.3	2016/10/14	Added notes for “No Restore AC Power Loss”
1.4	2016/11/10	Modified FCC from Class A to Class B
1.5	2019/03/22	Updated BIOS Setup

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INTRODUCTION

Thank you for choosing Lanner's NCA-1010. This desktop platform is Lanner's revolutionary ultra compact x86 networking system built with Intel Bay Trail CPU (Atom™ E3815). The central processor comes with hardware-assisted security mechanisms including AES-NI, Secure Boot and TPM, allowing only authorized software or data to run on NCA-1010. With built-in instruction commands, NCA-1010 helps manage and secure devices connected to local WiFi network, like a compact entry-level firewall or multi-service gateway.

Despite its compact size, NCA-1010 delivers rich I/O connectivity and scalability. In terms of scalability, NCA-1010 comes with one HDMI port for high definition display, one console port for device network management, three LAN ports for network connections, two USB ports (one in USB 2.0 and another in USB 3.0 specifications) for external devices, and one antenna hole for signal reception. The rich I/O connectivity makes NCA-1010 a widely deployable system in small area network environments.

For scalability, the inside of NCA-1010 provides one full-length mini-PCIe socket for Wi-Fi/3G/LTE module to bring wireless connectivity to the system. In addition, there is also a half-length mini-PCIe socket for mSATA storage. This will allow NCA-1010 to serve as a local media server when connected wirelessly.

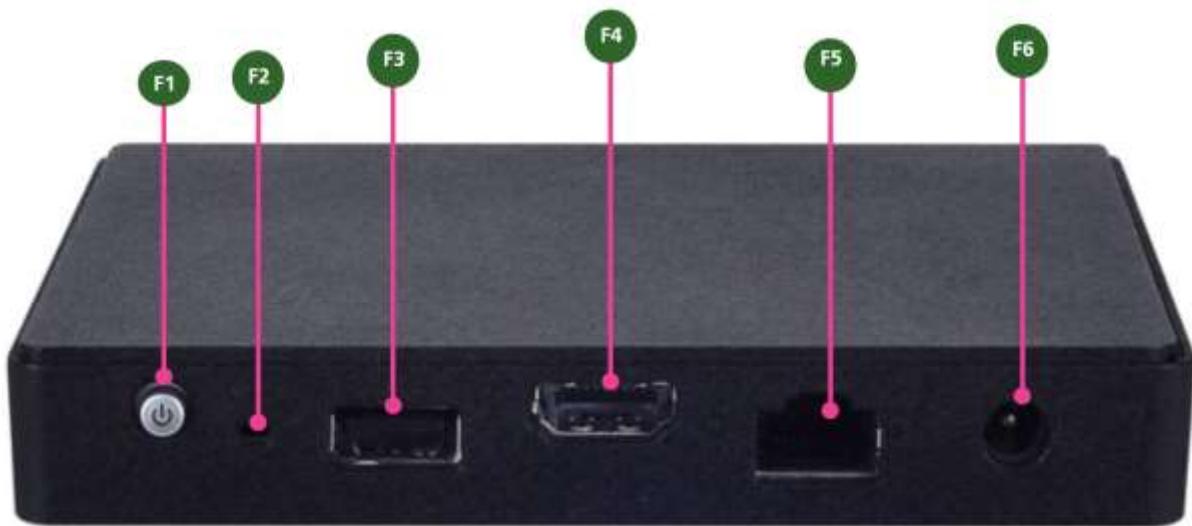
With the features discussed above, NCA-1010 is ideally applicable in multi-service gateway control, entry firewall for SMEs, retail, library and hospital environments, as well as wireless network access and bandwidth management in small area networks.

System Specifications

Processor System	CPU	Intel® Bay Trail E3815 or E3825 CPU
	Frequency	1.46 GHz
	Core Number	E3815 CPU: single core E3825 CPU: dual cores
	BIOS	AMI SPI Flash BIOS
Thermal	Chipset	N/A
	Fanless	Yes
Memory	Technology	DDR3L 1067 MHz non-ECC
	Max. Capacity	8GB
	Socket	1 x 204-pin DIMM
Ethernet	Controller	3 x Intel i211
	Speed	10/100/1000 Mbps
	Interface	RJ-45
	Bypass	N/A
Storage	Type	mSATA
	Installation	1 x mSATA
I/O	Reset Button	1 x reset button (Hardware reset only)
	Console	1 x RJ45
	USB	USB 2.0 x 1, USB 3.0 x 1
	IPMI	N/A
	TPM	Optional
Expansion	PCIe	1 x mini-PCIe
	PCI	N/A
Cooling	Processor	Passive CPU heatsink
	System	Fanless
Environment	Operating Temperature	0 ~ 40°C
	Non-operating Temperature	-20 ~ 70°C
	Relative Humidity	0% ~ 90%, non-condensing
Miscellaneous	LCD Module	N/A
	Watchdog	N/A
	Internal RTC with Li Battery	Yes
Mechanical	Dimension (W x H x D)	124.26 x 19.4 x 119.66 mm
	Weight	0.5 kg
	Mounting	N/A
Power	Type / Watts	36W power adapter

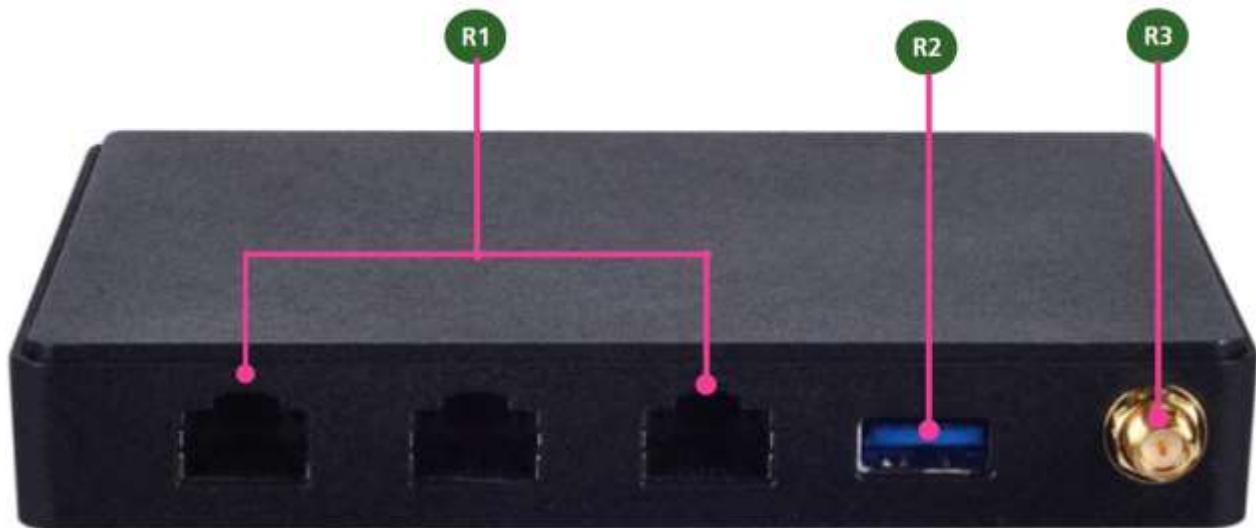
	Input*	AC 100~240V@50~60 Hz
Driver Support	Microsoft Windows	Windows 7, Windows 8, WES 7, WES 8
	Linux	Linux (Fedora 18/Yocto)
Certification	EMC	CE Class B, FCC Class B, RoHS
	Safety	UL

Front Panel



No.	Description	No.	Description
F1	Power switch	F2	▶ Reset
F3	USB 2.0 port	F4	▶ HDMI output port
F5	Console Port	F6	▶ Power input

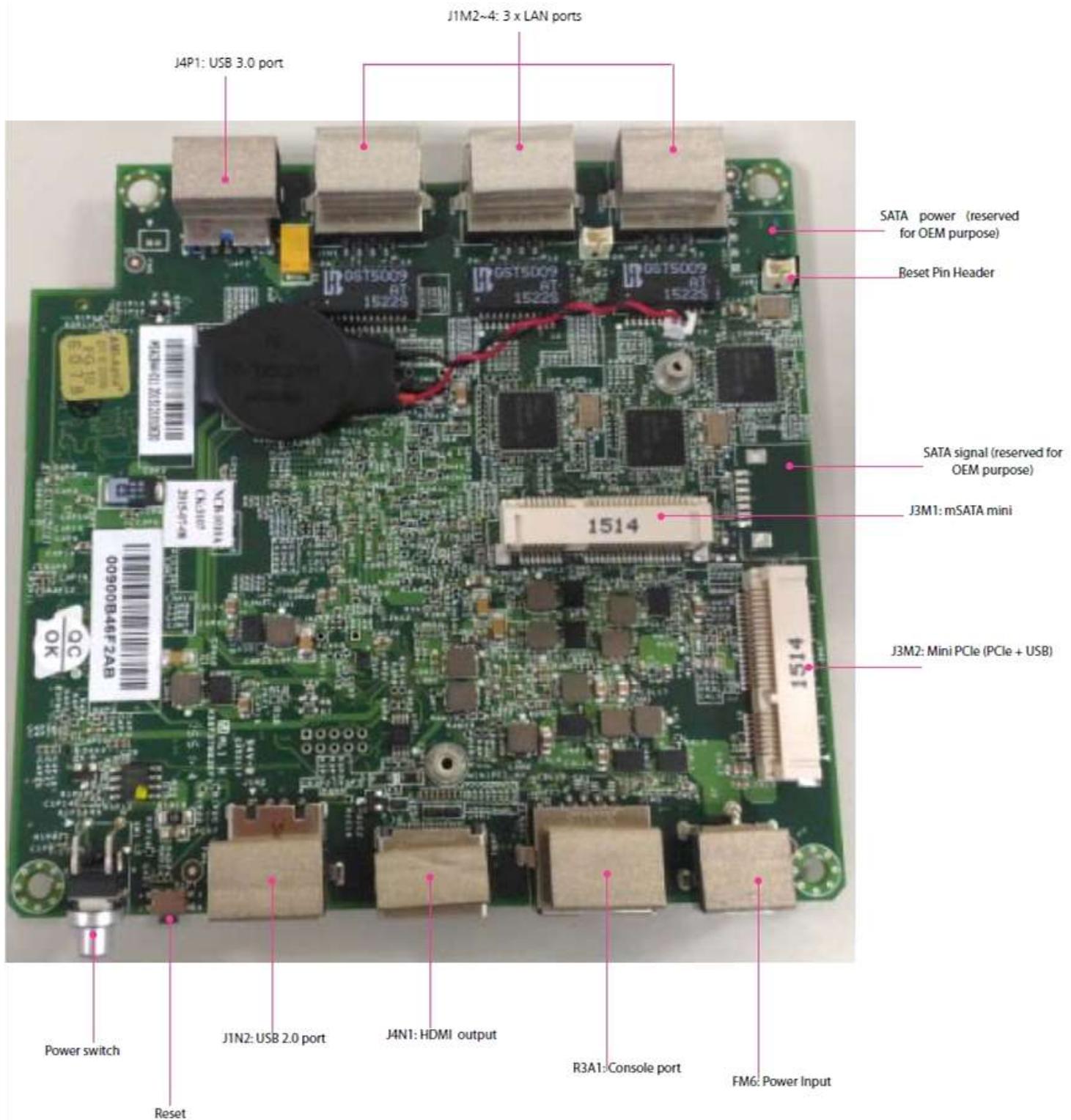
Rear Panel



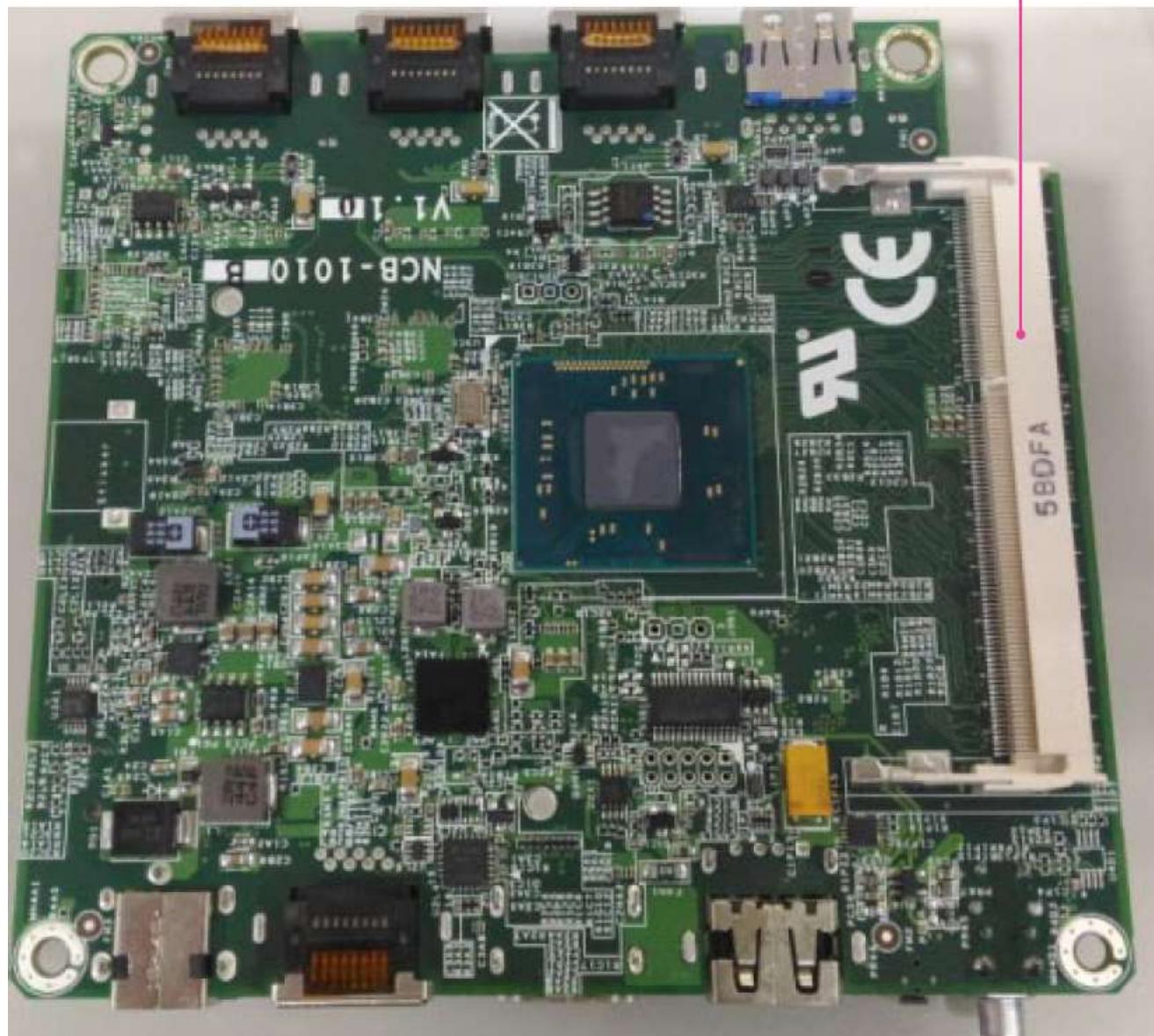
No.	Description
R1	3 x Ethernet LAN ports in RJ-45 connectors
R2	USB 3.0 port, backward compatible with USB 2.0
R3	Antenna hole

Motherboard Layout

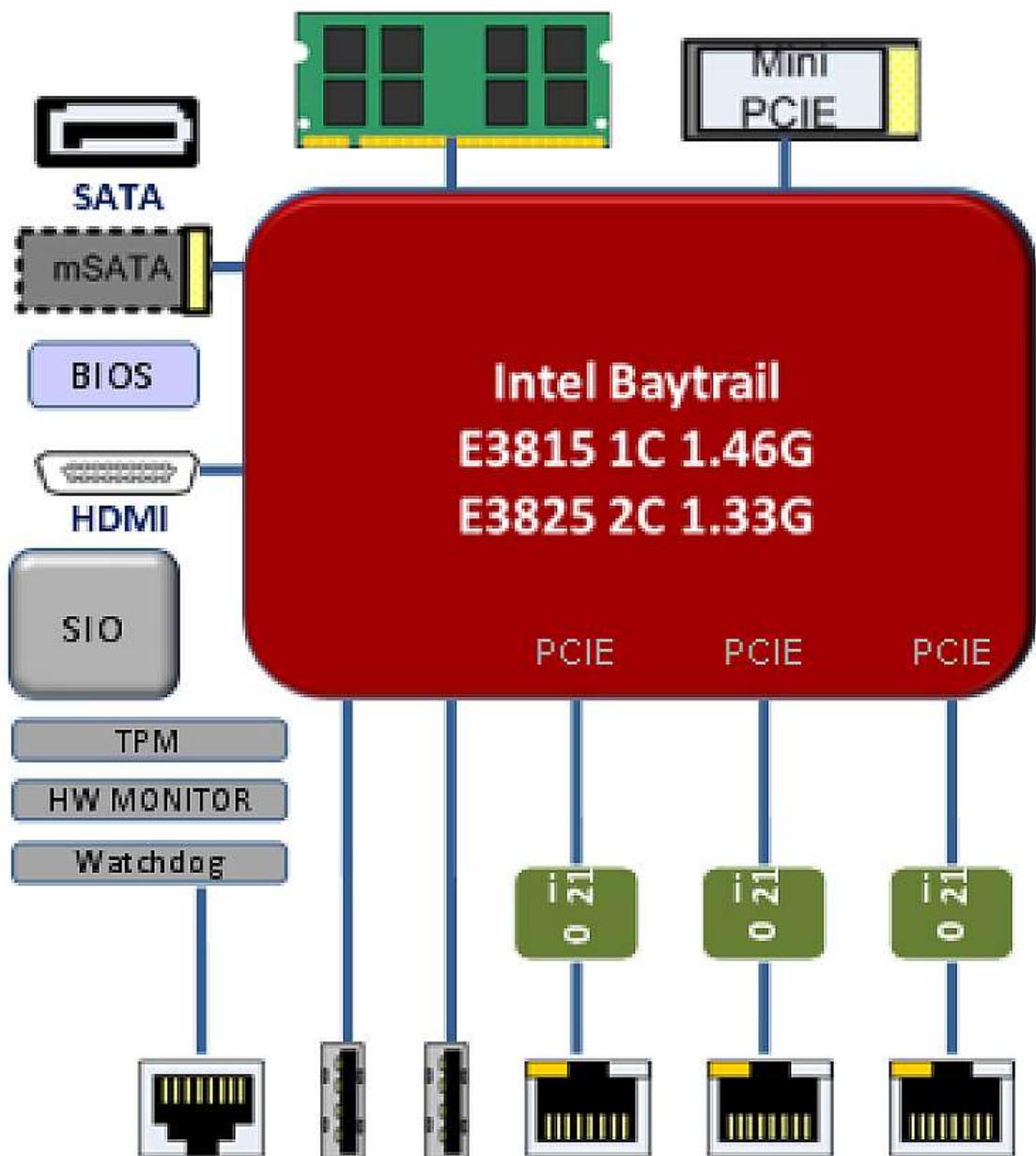
The motherboard layout shows the connectors and jumpers on the board. Refer to the following picture as a reference of the pin assignments and the internal connectors.



J3D1: DIMM

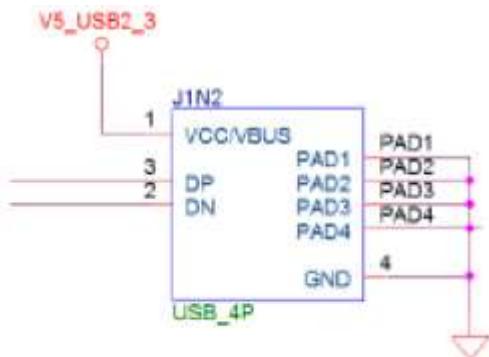


Block Diagram



Internal Jumper & Connectors

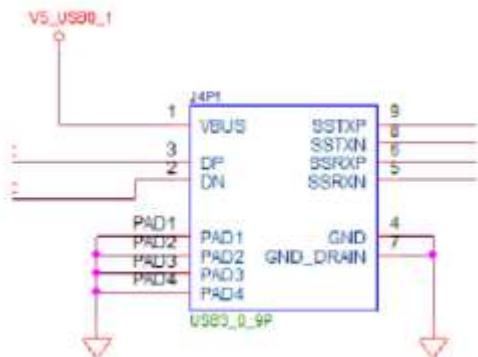
USB 2.0 port (J1N2):



Pin	Signal	Pin	Signal
1	VCC 5V	2	D-
3	D+	4	GND

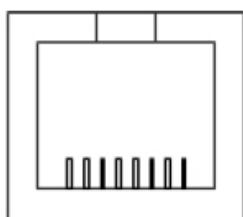
USB 3.0 port (J4P1)

Pin	Signal	Pin	Signal
1	VCC 5V	2	D-
3	D+	4	GND
5	USB3_RX-	6	USB3_RX+
7	GND	8	USB3_TX-
9	USB3_TX+		



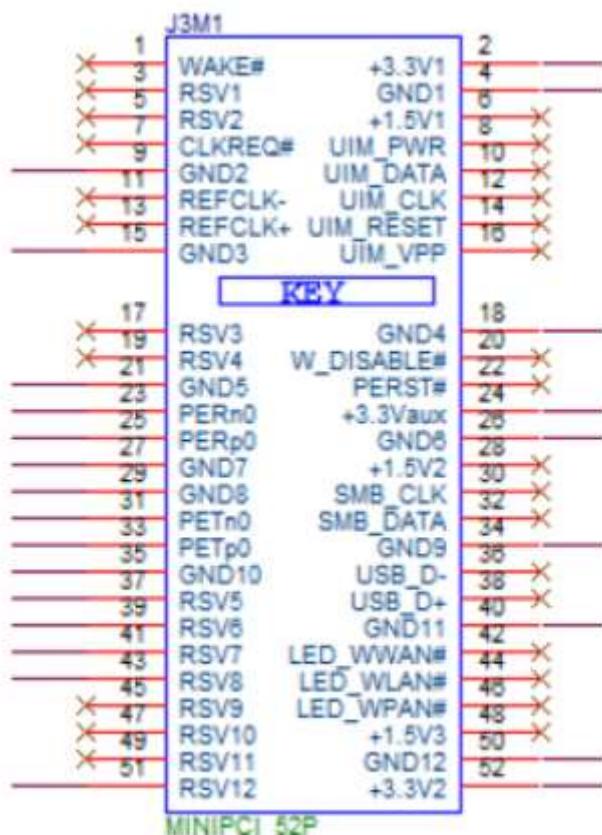
Console Port (J1M5):

The console port is defined in serial interface.



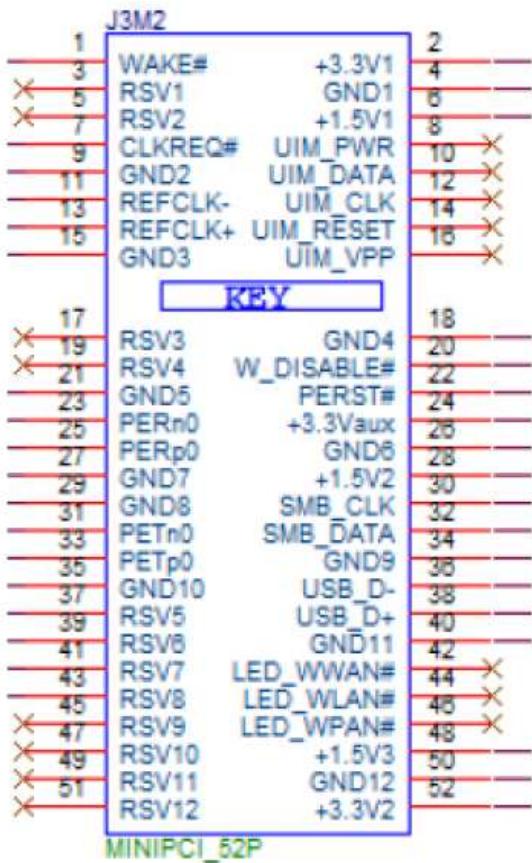
Pin	Signal	Pin	Signal
1	N/A	2	NC
3	Transmitted Data (TxD)	4	GND
5	GND	6	Received Data (RxD)
7	NC	8	N/A

mSATA socket (J3M1):



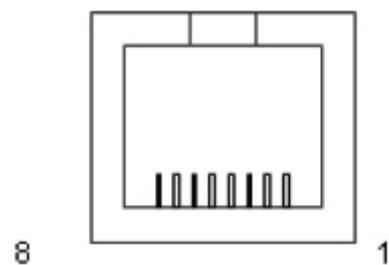
Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	NC	2	3.3V	3	NC	4	GND
5	NC	6	NC	7	NC	8	NC
9	GND	10	NC	11	NC	12	NC
13	NC	14	NC	15	GND	16	NC
17	NC	18	GND	19	NC	20	NC
21	GND	22	NC	23	RX+	24	3.3V
25	RX-	26	GND	27	GND	28	NC
29	GND	30	NC	31	TX-	32	NC
33	TX+	34	GND	35	GND	36	NC
37	GND	38	NC	39	3.3V	40	GND
41	3.3V	42	NC	43	GND	44	NC
45	NC	46	NC	47	NC	48	NC
49	NC	50	GND	51	NC	52	3.3V

Mini-PCI Express socket (J3M2):



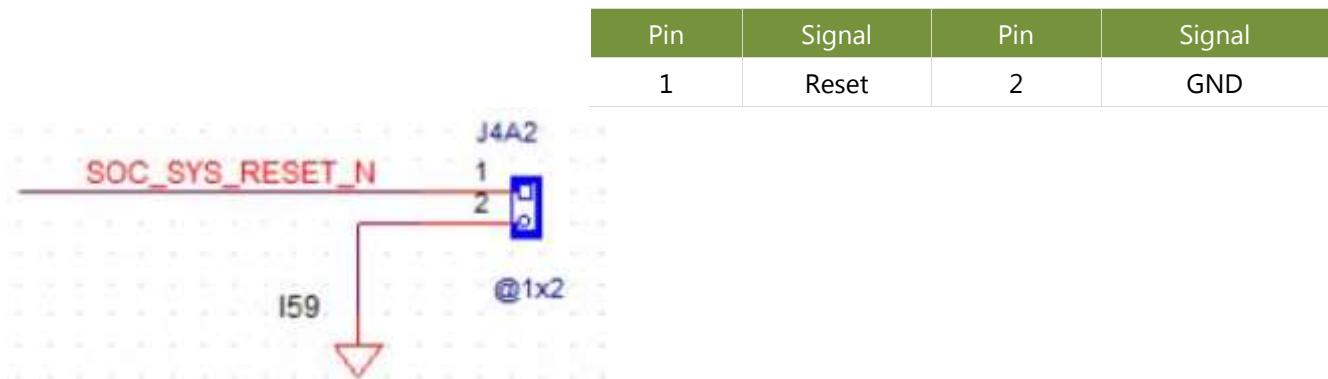
Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	WAKE	2	3.3V	3	NC	4	GND
5	NC	6	1.5V	7	CLKREQ	8	NC
9	GND	10	NC	11	CLK-	12	NC
13	CLK+	14	NC	15	GND	16	NC
17	NC	18	GND	19	NC	20	NC
21	GND	22	RESET	23	PCIE_RX-	24	3.3V
25	PCIE_RX+	26	GND	27	GND	28	1.5V
29	GND	30	SMB_CLK	31	PCIE_TX-	32	SMB_DAT
33	PCIE_TX+	34	GND	35	GND	36	USB_D-
37	GND	38	USB_D+	39	3.3V	40	GND
41	3.3V	42	NC	43	GND	44	NC
45	NC	46	NC	47	NC	48	1.5V
49	NC	50	GND	51	NC	52	3.3V

LAN Ports (J1M2/J1M3/J1M4)

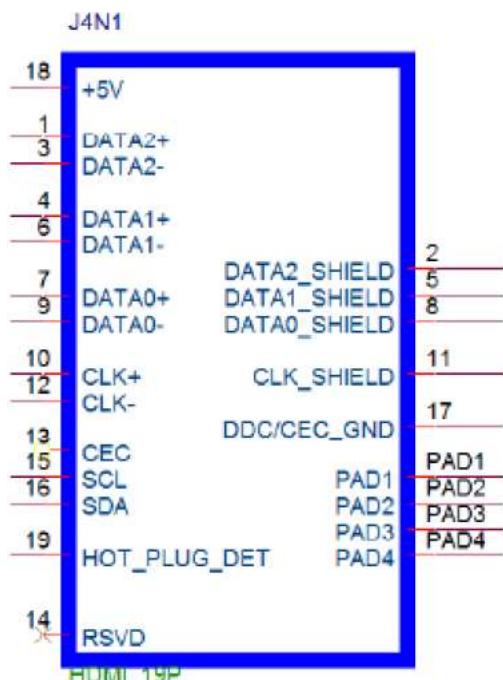


Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	MDI0+	2	MDI0-	3	MDI1+	4	MDI2+
5	MDI2-	6	MDI1-	7	MDI3+	8	MDI3-

Reset Pin Header



HDMI Display Port (J4N1):



Pin	Signal	Pin	Signal
1	DAT2+	2	GND
3	DATA2-	4	DATA1+
5	GND	6	DATA1-
7	DATA0+	8	GND
9	DATA0-	10	CLK+
11	GND	12	CLK-
13	NC	14	NC
15	SCL	16	SDA
17	GND	18	GND
19	HOT_PLUG_DET		

HARDWARE SETUP

Preparing the Hardware Installation

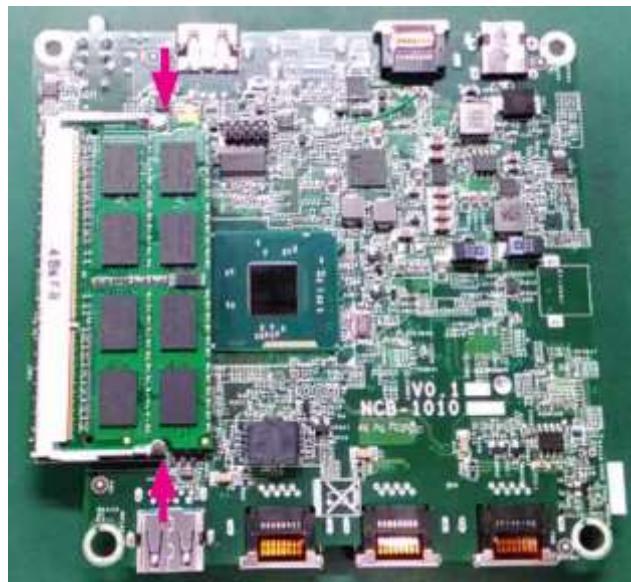


Warning: (1) To reduce the risk of personal injury, electric shock, or damage to the equipment, please remove all power sources. (2) Please wear ESD protected gloves before conducting the following steps. (3) Do NOT pile items on top of the system to prevent damages due to this improper use. Lanner is not liable for damages caused by improper use of the product.

Installing the System Memory

The motherboard supports DDR3L non-ECC DIMM memory. Please follow the steps to install the DIMM module.

- ▶ Locate the DIMM socket at the bottom side of the motherboard.
- ▶ Align the notches of both the socket and the module.
- ▶ Insert the module into the socket, press the module and lock it with clips on both sides.



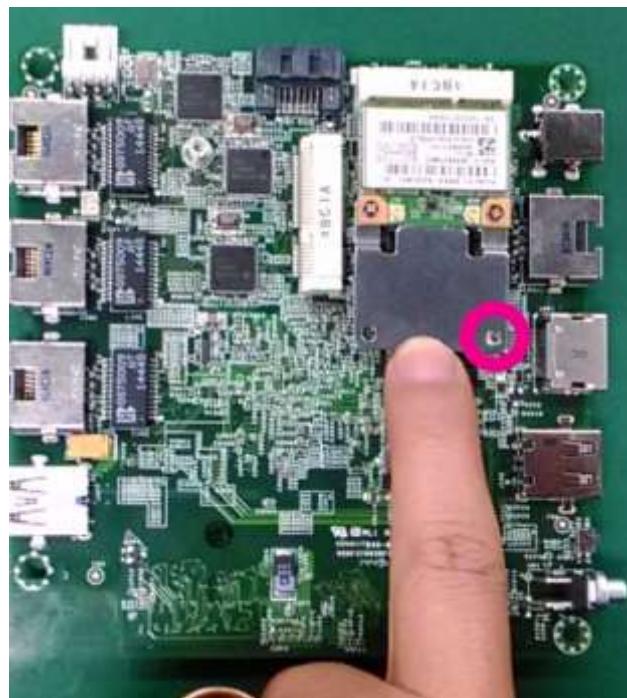
Installing Mini PCIe Wireless Module

NCA-1010 motherboard is designed with a mini-PCIe wireless module socket. Please follow the steps below for installation.

- ▶ Locate the mini-PCIe socket and align the notches between the socket and the module. Then insert the module as shown in the image.



- ▶ Press the module down and lock it with a screw, as demonstrated in the image.



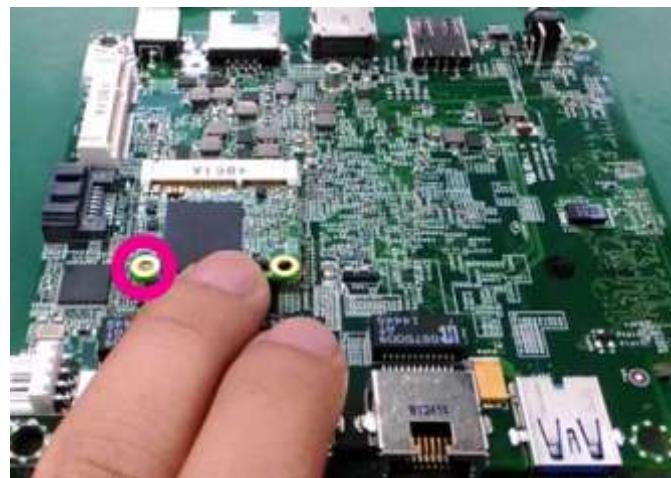
Installing mSATA Mini Module

NCA-1010 motherboard is designed with an mSATA Mini socket for storage purpose. Please follow the steps below for installation.

- ▶ Locate the mSATA Mini socket and align the notches between the socket and the module. Then insert the module as shown in the image.



- ▶ Press the module down and lock it with a screw, as demonstrated in the image.



BIOS SETUP

To enter the BIOS setup utility, simply follow the steps below:

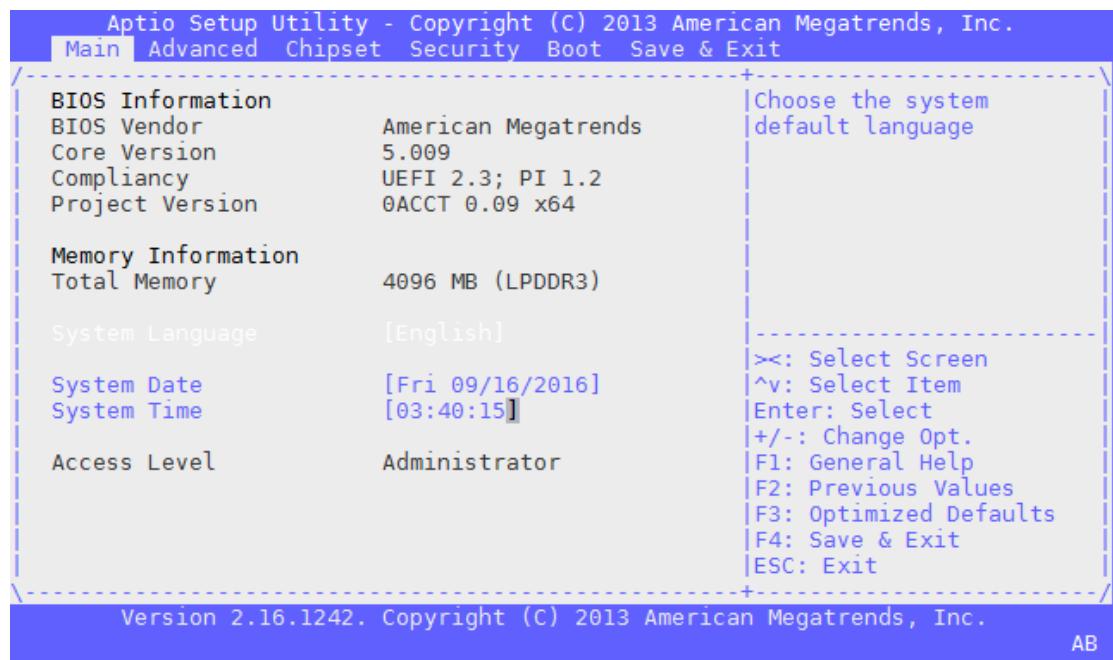
1. Boot up the system.
2. Pressing the <Tab> or key immediately allows you to enter the Setup utility, then you will be directed to the BIOS main screen. The instructions for BIOS navigations are as below:

Control Keys	Description
→←	select a setup screen
↑↓	select an item/option on a setup screen
<Enter>	select an item/option or enter a sub-menu
+/-	adjust values for the selected setup item/option
F1	display General Help screen
F2	retrieve previous values, such as the last configured parameters during the last time you entered BIOS
F3	load optimized default values
F4	save configurations and exit BIOS
<Esc>	exit the current screen

*No "Restore AC Power Loss" option in NCA-1010 BIOS setting. The parameter is set as "Power On" by default.

Main Page

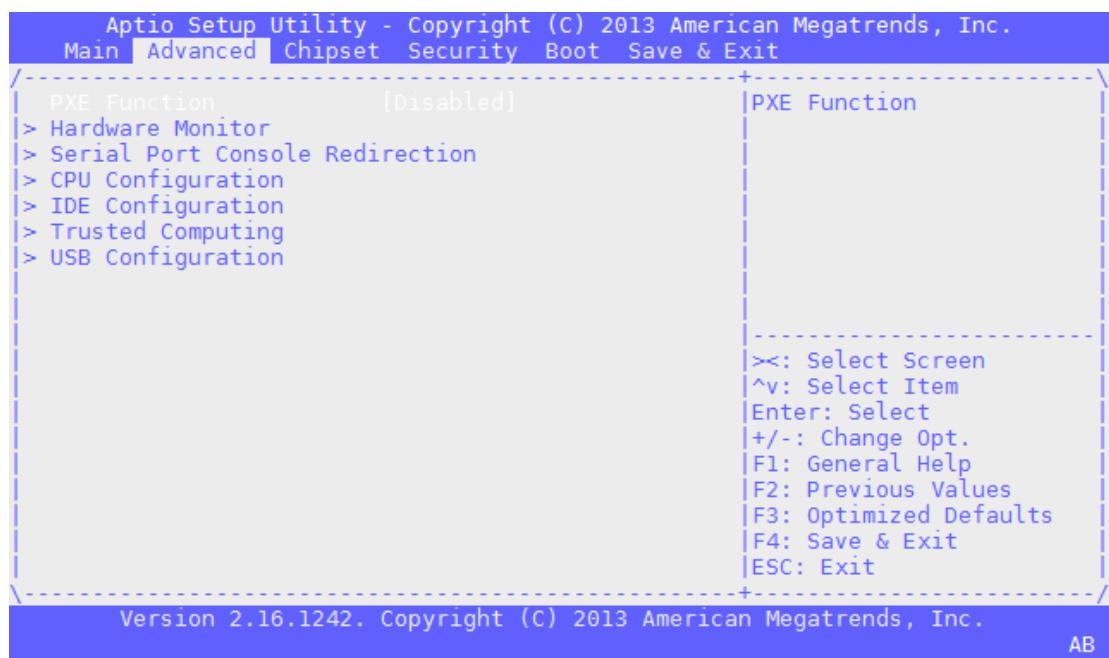
Setup main page contains BIOS information and project version information.



Feature	Description
BIOS Information	BIOS Vendor: American Megatrends Core Version: AMI Kernel version, CRB code base, X64 Compliance: UEFI version, PI version Project Version: BIOS release version Access Level: Administrator / User
Memory Information	Total Memory: Total Memory size.
System Language	English
System Date	To set the Date, use <Tab> to switch between Date elements. Default Range of Year: 2005-2099 Default Range of Month: 1-12 Days: dependent on Month.
System Time	To set the Date, use <Tab> to switch between Date elements.

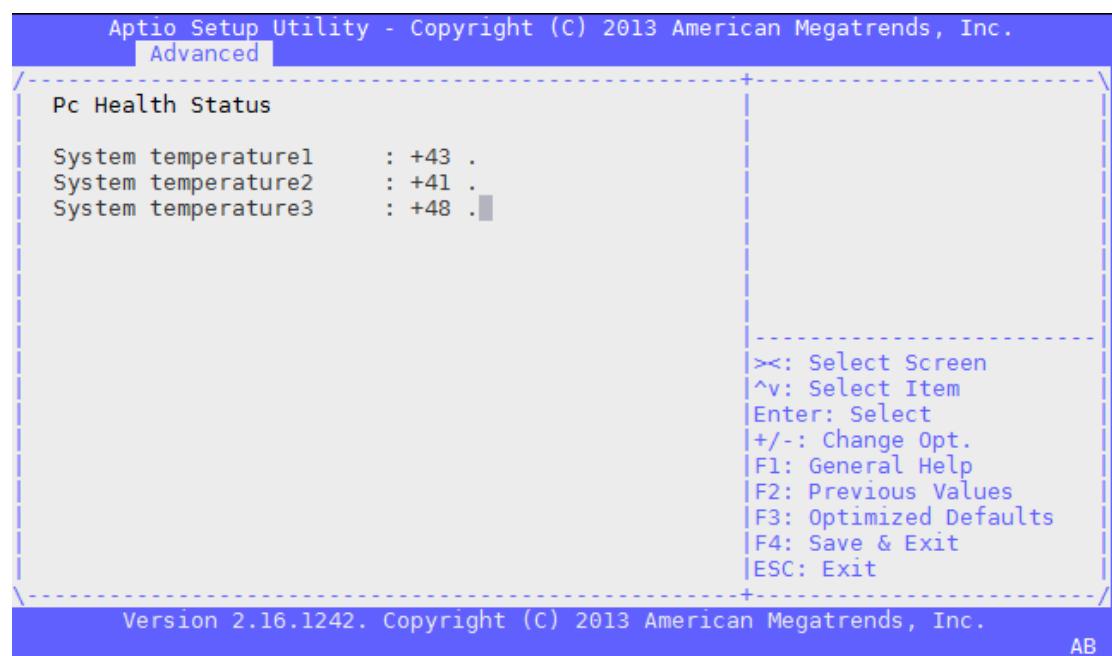
Advanced Page

Select the **Advanced** menu item from the BIOS setup screen to enter the "Advanced" setup screen. Users can select any of the items in the left frame of the screen.

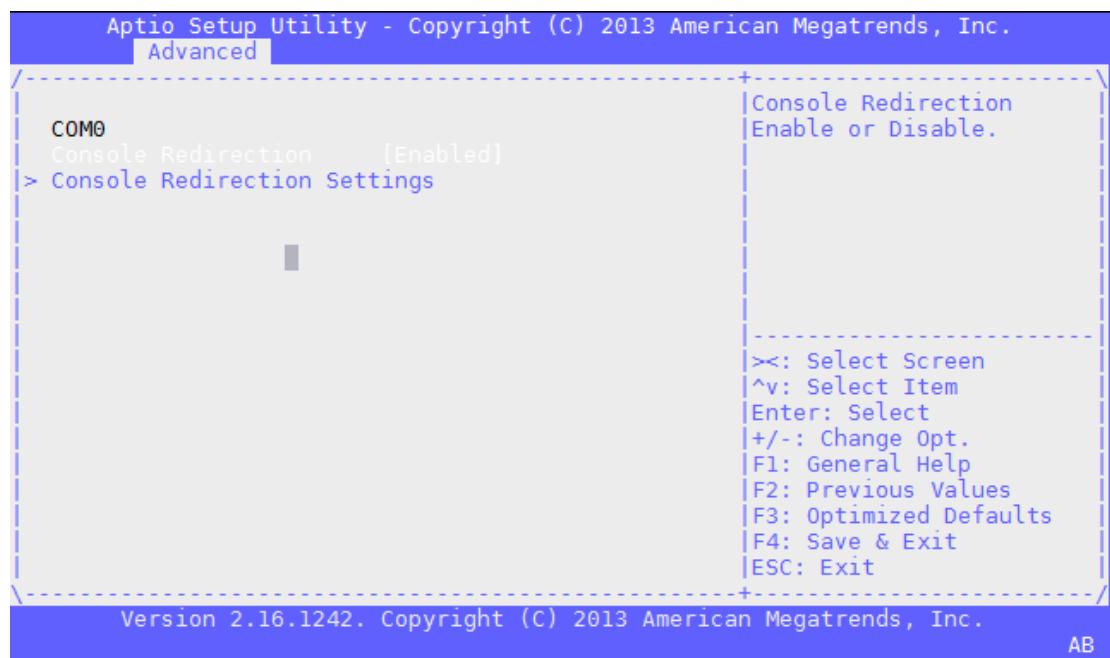


Feature	Options	Description
PXE Function	Disabled Enable LAN1 Enable LAN2 Enable LAN3	PXE Function

Hardware Monitor

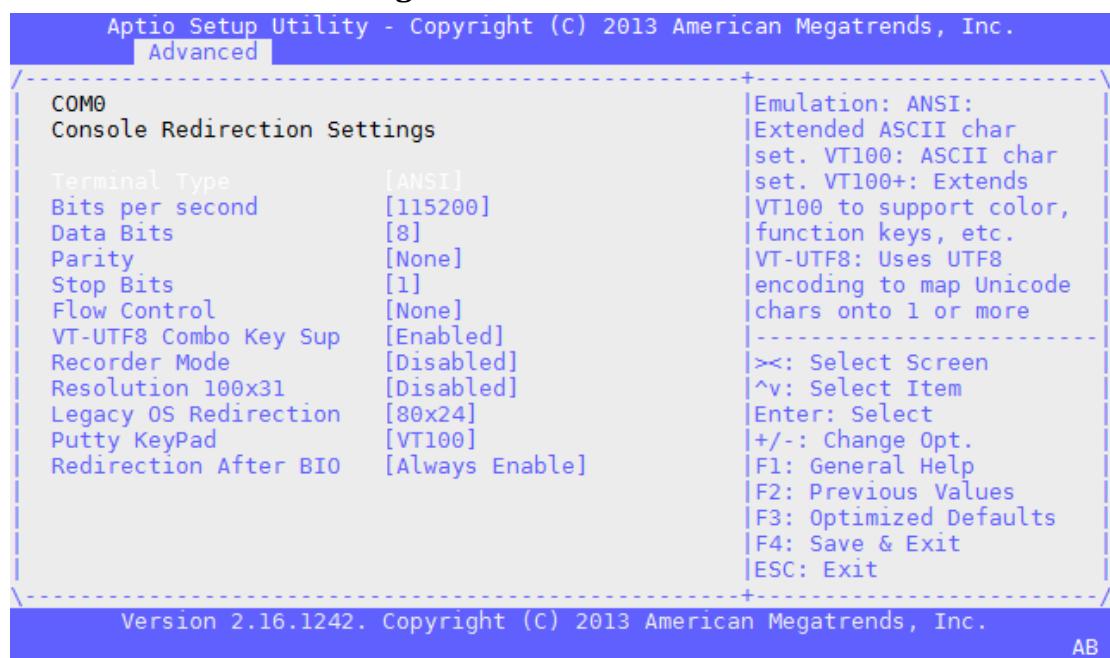


Serial Port Console Redirection



Feature	Options	Description
COM0 Console Redirection	Enabled Disabled	Enables or disables Console Redirection

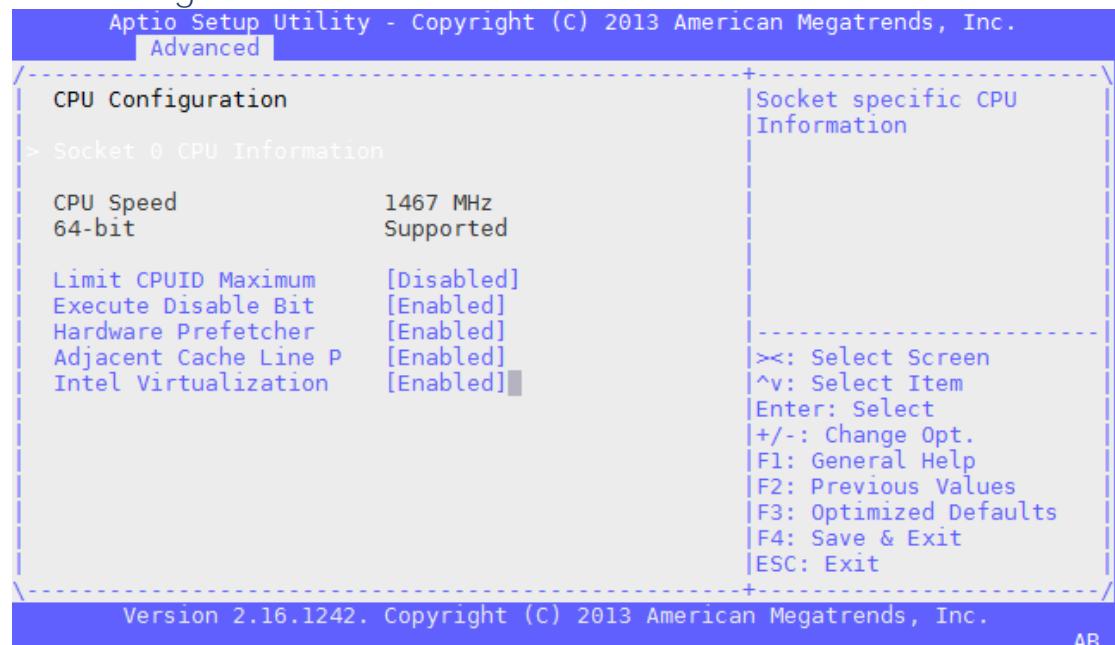
Console Redirection Settings



Feature	Options	Description
Terminal Type	VT100 VT100+ VT-UTF8 ANSI	VT100: ASCII char set VT100+: Extends VT100 to support color, function keys, etc. VT-UTF8: Uses UTF8 encoding to map Unicode chars onto 1 or more bytes ANSI: Extended ASCII char set
Bits per second	9600 19200 38400 57600 115200	Selects serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds.
Data Bits	7 8	Data Bits
Parity	None Even Odd Mark Space	A parity bit can be sent with the data bits to detect some transmission errors.
Stop Bits	1 2	Indicates the end of a serial data packet.
Flow Control	None Hardware RTS/CTS	Flow Control can prevent data loss from buffer overflow.
VT-UTF8 Combo Key Support	Disabled Enabled	Enables VT-UTF8 Combination Key Support for ANSI/VT100 terminals

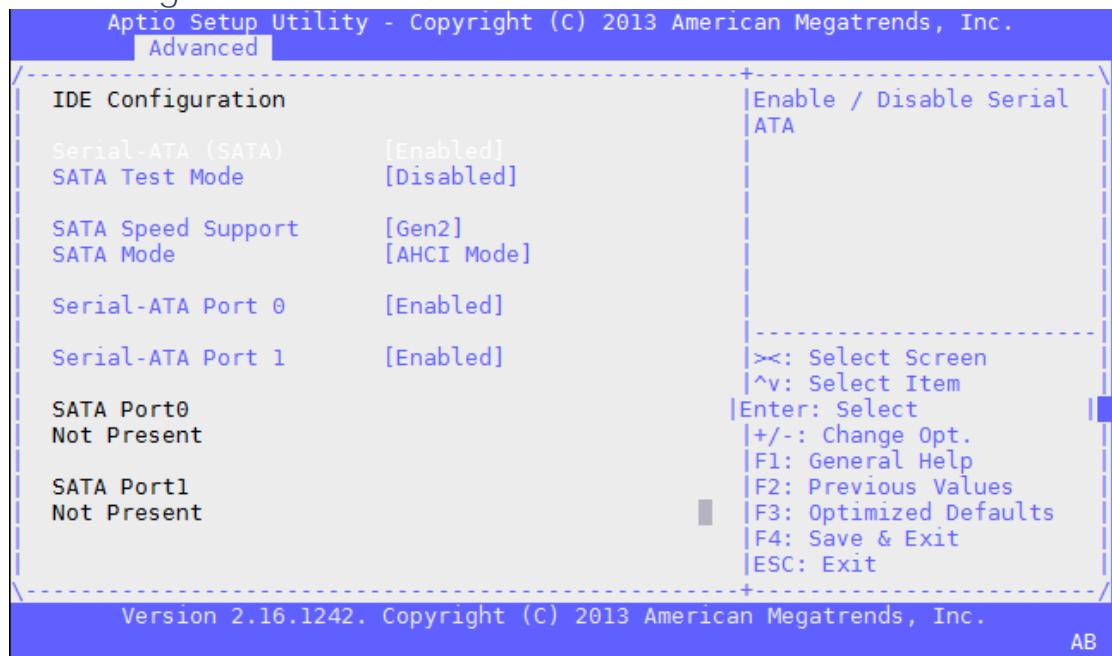
Recorder Mode	Disabled Enabled	With this mode enabled, only text will be sent. This is to capture Terminal data.
Resolution 100x31	Disabled Enabled	Enables or disables extended terminal resolution
Legacy OS Redirection	80x24 80x25	On Legacy OS, the Number of Rows and Columns supported redirection.
Putty KeyPad	VT100 LINUX XTERM86 SCO ESCN VT400	Selects FunctionKey and KeyPad on Putty.
Redirection After BIOS POST	Always Enable BootLoader	When Bootloader is selected, Legacy Console Redirection is disabled before booting to legacy OS. When Always Enable is selected, then Legacy Console Redirection is enabled for legacy OS. Default setting for this option is set to Always Enable .

CPU Configuration



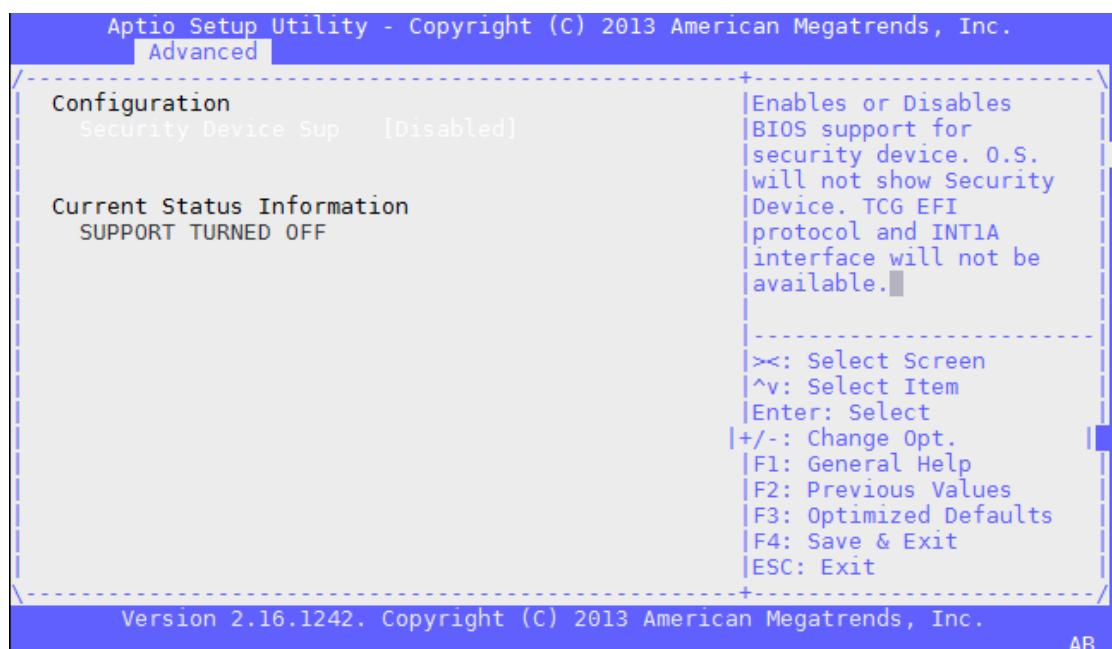
Feature	Options	Description
Socket 0 CPU Information	None	Socket specific CPU Information
Limit CPUID Maximum	Disabled Enabled	Disabled for Windows XP
Execute Disable Bit	Disabled Enabled	XD can prevent certain classes of malicious buffer overflow attacks when combined with a supporting OS (Windows Server 2003 SP1, Windows XP SP2, SuSE Linux 9.2, RedHat Enterprise 3 Update 3.)
Hardware Prefetcher	Disabled Enabled	Enable the Mid Level Cache (L2) streamer prefetcher.
Adjacent Cache Line Prefetch	Disabled Enabled	Enable the Mid Level Cache (L2) prefetching of adjacent cache lines.
Intel Virtualization	Disabled Enabled	When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology

IDE Configuration



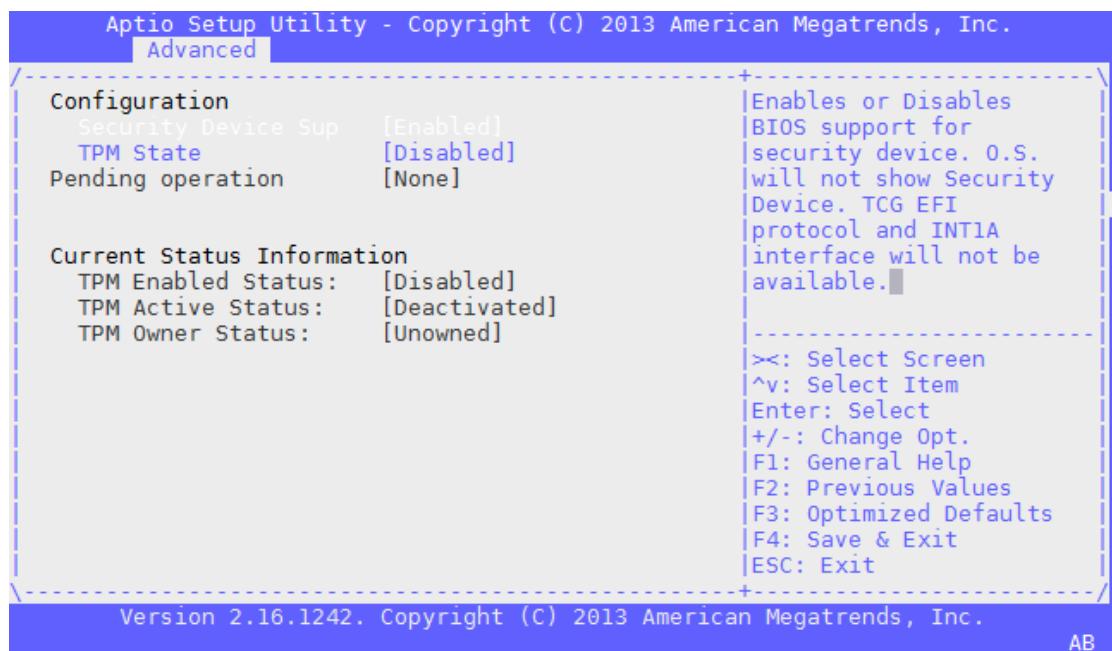
Feature	Options	Description
Serial-ATA (SATA)	Disabled Enabled	Enable / Disable Serial ATA
SATA Test Mode	Disabled Enabled	Test Mode enable / disable.
SATA Speed Support	Gen1 Gen2	SATA Speed Support Gen1 or Gen2
SATA Mode	IDE Mode AHCI Mode	Select IDE / AHCI
Serial-ATA Port 0	Disabled Enabled	Enable / Disable Serial ATA Port 0
Serial-ATA Port 1	Disabled Enabled	Enable / Disable Serial ATA Port 1

Trusted Computing



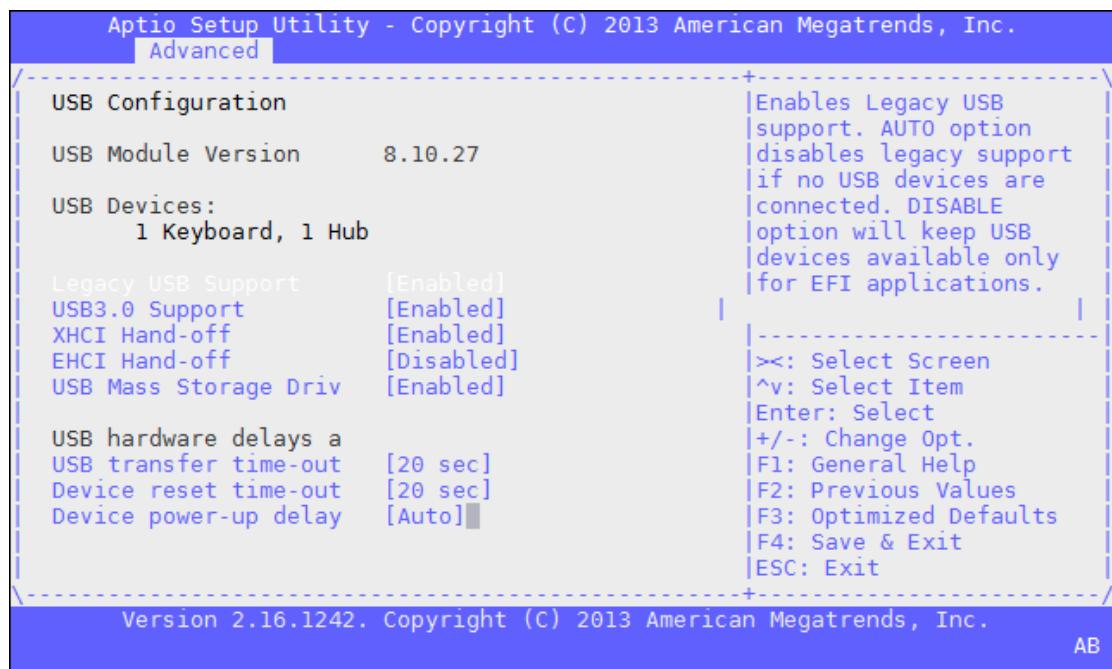
Feature	Options	Description
Security Device Support	Disabled Enabled	Enables or disables BIOS support for security device. By disabling this function, OS will not show Security Device. TCG EFI protocol and INT1A interface will not be available.

Trusted Computing



Feature	Options	Description
Security Device Support	Disabled Enabled	Enables or disables BIOS support for security device. By disabling this function, OS will not show Security Device. TCG EFI protocol and INT1A interface will not be available.
TPM State	Enabled Disabled	Enables or disables Security Device. NOTE: Your computer will reboot during restart in order to change State of the Device.
Pending operation	None TPM Clear	Schedules an Operation for the Security Device. NOTE: Your computer will reboot during restart in order to change State of Security Device.

USB Configuration

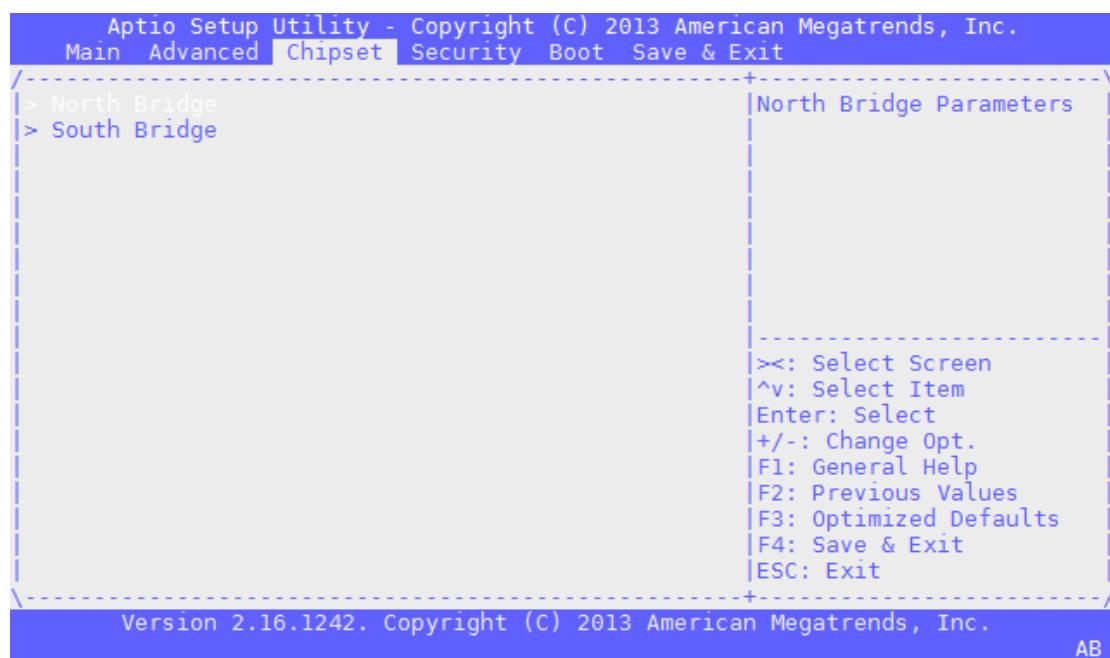


Feature	Options	Description
Legacy USB Support	Enabled Disabled Auto	Enables Legacy USB support. Auto option disables legacy support if no USB devices are connected; Disabled option will keep USB devices available only for EFI applications.
USB3.0 Support	Enabled Disabled	Enable/Disable USB3.0 (XHCI) Controller Support.
XHCI Hand-off	Enabled Disabled	This is a workaround for OSes without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.
EHCI Hand-off	Enabled Disabled	This is a workaround for OSes without EHCI hand-off support. The EHCI ownership change should be claimed by EHCI driver.
USB Mass Storage Driver Support	Enabled Disabled	Enables or disables USB Mass Storage Driver Support.
USB transfer time-out	1 sec 5 sec 10 sec 20 sec	The time-out value for Control, Bulk, and Interrupt transfers
Device reset time-out	1 sec 5 sec 10 sec	USB mass storage device Start Unit command time-out

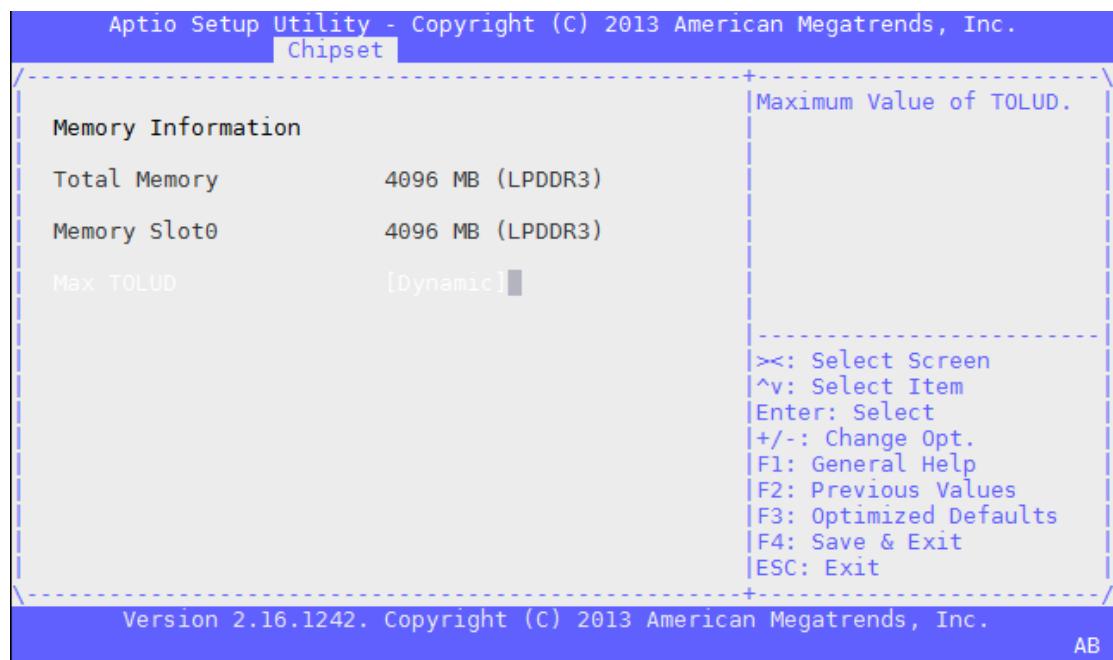
	20 sec	
Device power-up delay	Auto Manual	Maximum time the device will take before it properly reports itself to the Host Controller. Auto uses default value: for a Root port, it is 100 ms, for a Hub port the delay is taken from Hub descriptor.

Chipset

Select the Chipset menu item from the BIOS setup screen to enter the Platform Setup screen. Users can select any of the items in the left frame of the screen.

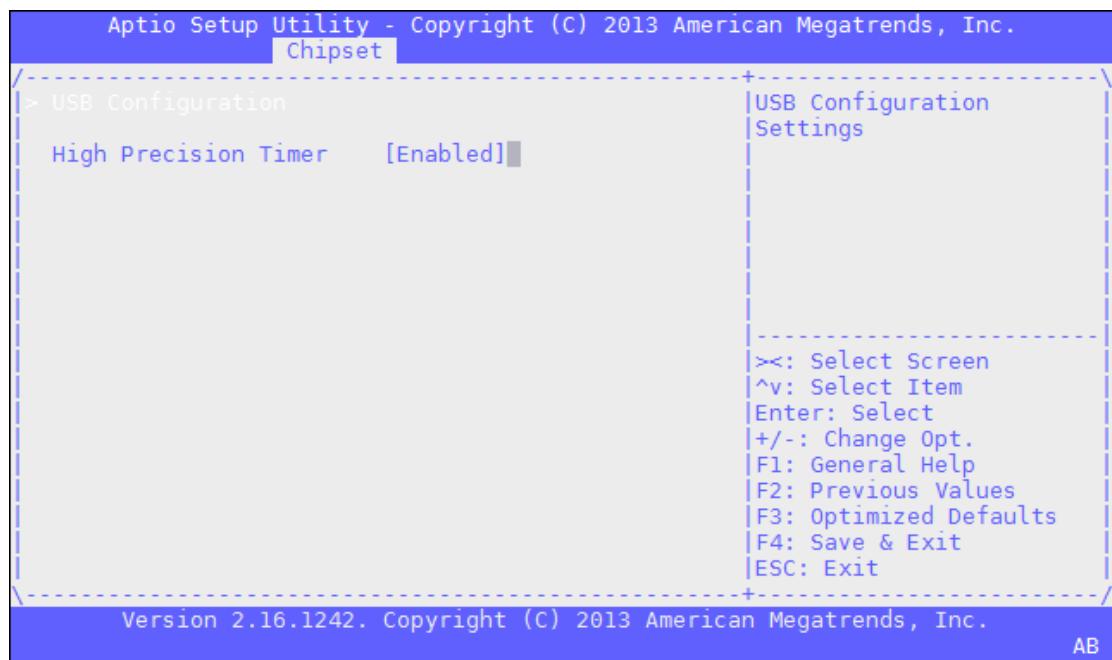


North Bridge



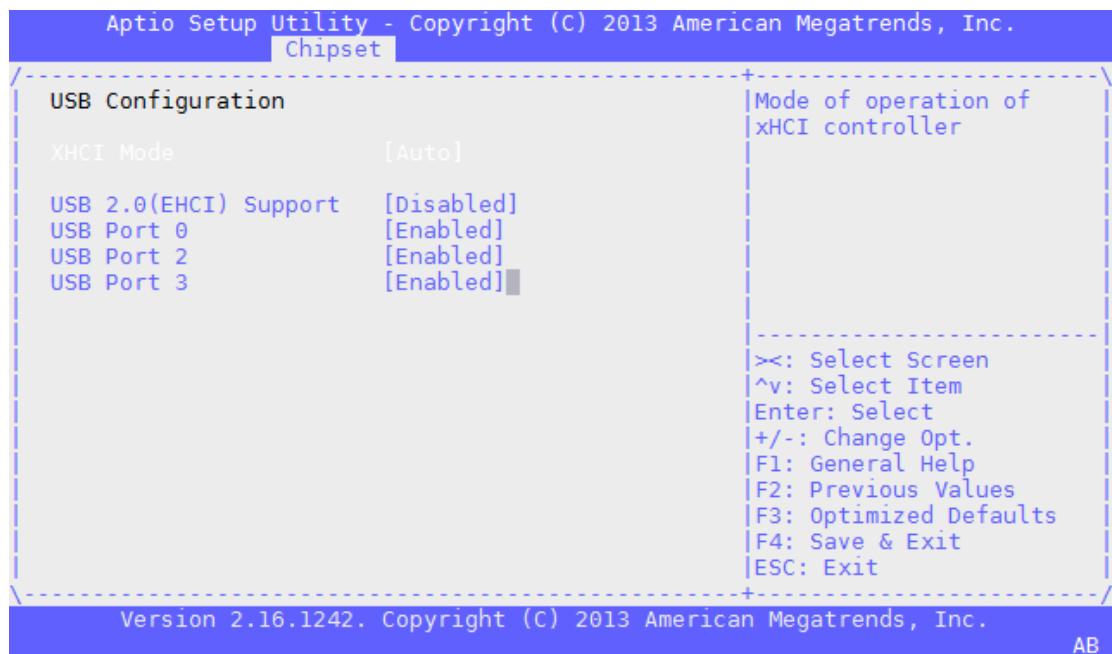
Feature	Options	Description
Max TOLUD.	Dynamic 1 GB 1.25 GB 1.5 GB 1.75 GB 2 GB 2.25 GB 2.5 GB 2.75 GB 3 GB	Maximum Value of TOLUD.

South Bridge



Feature	Options	Description
High Precision Timer	Enabled Disabled	Enable or Disable the High Precision Event Timer.

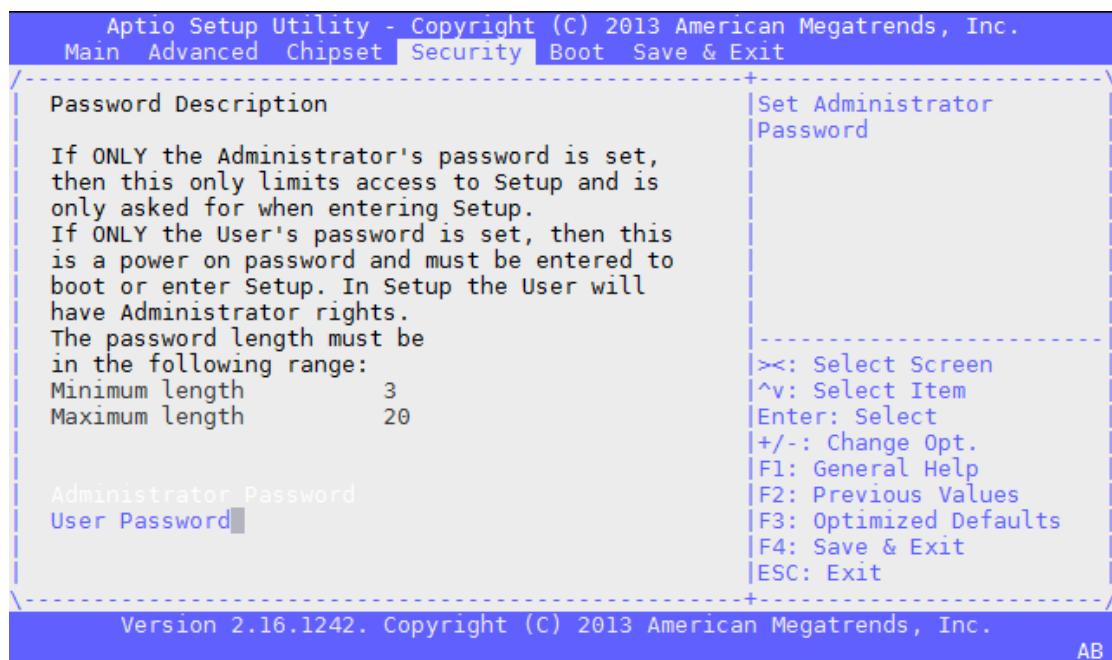
USB Configuration



Feature	Options	Description
XHCI Mode	Enabled Disabled Auto	Mode of operation of xHCI controller
USB 2.0(EHCI) Support	Disabled Enabled	Control the USB EHCI (USB 2.0) functions. One EHCI controller must always be enabled
USB Port 0	Disabled Enabled	Enable / Disable USB Port 0
USB Port 2	Disabled Enabled	Enable / Disable USB Port 2
USB Port 3	Disabled Enabled	Enable / Disable USB Port 3

Security

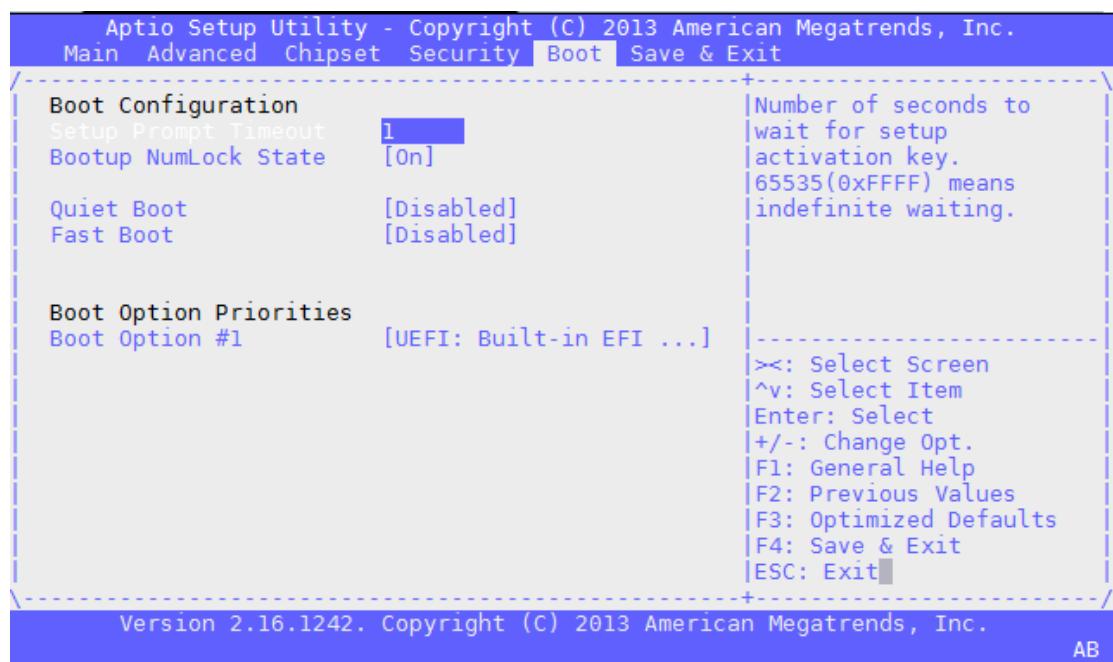
Select the Security menu item from the BIOS setup screen to enter the Security Setup screen. Users can select any of the items in the left frame of the screen.



Feature	Description
Administrator Password	If ONLY the Administrator's password is set, it only limits access to Setup and is only asked for when entering Setup.
User Password	If ONLY the User's password is set, it serves as a power-on password and must be entered to boot or enter Setup. In Setup, the User will have Administrator rights.

Boot Menu

Select the Boot menu item from the BIOS setup screen to enter the Boot Setup screen. Users can select any of the items in the left frame of the screen.



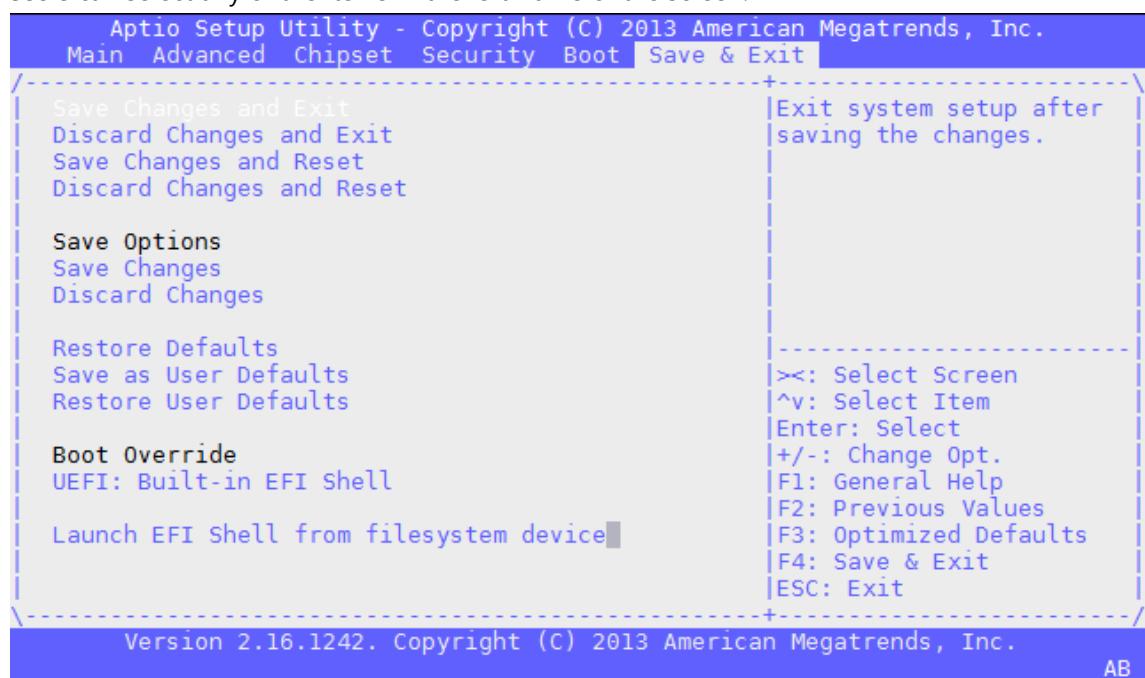
Feature	Options	Description
Setup Prompt Timeout	1	The number of seconds to wait for setup activation key. 65535 means indefinite waiting.
Bootup NumLock State	On Off	Select the keyboard NumLock state
Quiet Boot	Disabled Enabled	Enables or disables Quiet Boot option.
Fast Boot	Disabled Enabled	Enables or disables boot with initialization of a minimal set of devices required to launch active boot option. Has no effect for BBS boot options.

- Choose boot priority from boot option priorities.

Save and Exit Menu

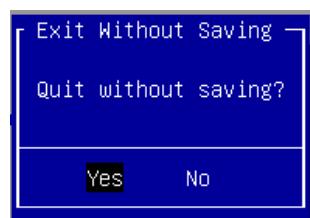
Select the Save and Exit menu item from the BIOS setup screen to enter the Save and Exit Setup screen.

Users can select any of the items in the left frame of the screen.



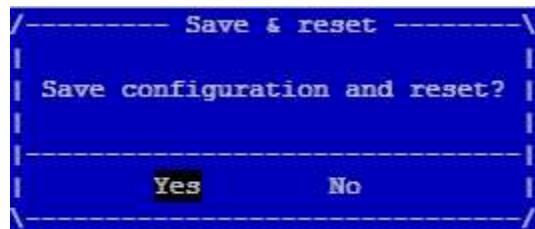
■ Discard Changes and Exit

Select this option to quit Setup without saving any modifications to the system configuration. The following window will appear after the “Discard Changes and Exit” option is selected. Select “Yes” to Discard changes and Exit Setup.



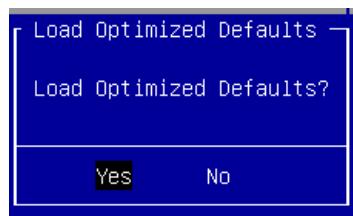
■ Save Changes and Reset

When Users have completed the system configuration changes, select this option to save the changes and reset from BIOS Setup in order for the new system configuration parameters to take effect. The following window will appear after selecting the “Save Changes and Reset” option is selected. Select “Yes” to Save Changes and reset.



■ Restore Defaults

Restore default values for all setup options. Select "Yes" to load Optimized defaults.



PS: The items under Boot Override were not same with image. It should depend on devices connect on system.

APPENDIX

Terms and Conditions

Warranty Policy

- ▶ All products are under warranty against defects in materials and workmanship for a period of one year from the date of purchase.
- ▶ The buyer will bear the return freight charges for goods returned for repair within the warranty period; whereas the manufacturer will bear the after service freight charges for goods returned to the user.
- ▶ The buyer will pay for repair (for replaced components plus service time) and transportation charges (both ways) for items after the expiration of the warranty period.
- ▶ If the RMA Service Request Form does not meet the stated requirement as listed on "RMA Service," RMA goods will be returned at customer's expense.
- ▶ The following conditions are excluded from this warranty: Improper or inadequate maintenance by the customer Unauthorized modification, misuse, or reversed engineering of the product Operation outside of the environmental specifications for the product.

RMA Service

Requesting a RMA#

- ▶ To obtain a RMA number, simply fill out and fax the "RMA Request Form" to your supplier.
- ▶ The customer is required to fill out the problem code as listed. If your problem is not among the codes listed, please write the symptom description in the remarks box.
- ▶ Ship the defective unit(s) on freight prepaid terms. Use the original packing materials when possible.
- ▶ Mark the RMA# clearly on the box.



Note: Customer is responsible for shipping damage(s) resulting from inadequate/loose packing of the defective unit(s). All RMA# are valid for 30 days only; RMA goods received after the effective RMA# period will be rejected.

RMA Service Request Form

When requesting RMA service, please fill out the following form. Without this form enclosed, your RMA cannot be processed.

RMA No:	Reasons to Return: <input type="checkbox"/> Repair(Please include failure details) <input type="checkbox"/> Testing Purpose		
Company:	Contact Person:		
Phone No.	Purchased Date:		
Fax No.:	Applied Date:		
Return Shipping Address: _____			
Shipping by: <input type="checkbox"/> Air Freight <input type="checkbox"/> Sea <input type="checkbox"/> Express _____ <input type="checkbox"/> Others: _____			
Item	Model Name	Serial Number	Configuration

Item	Problem Code	Failure Status

*Problem Code:

- | | | | |
|---------------------------|------------------------------|--------------------|--------------------------|
| 01:D.O.A. | 07: BIOS Problem | 13: SCSI | 19: DIO |
| 02: Second Time
R.M.A. | 08: Keyboard Controller Fail | 14: LPT Port | 20: Buzzer |
| 03: CMOS Data Lost | 09: Cache RMA Problem | 15: PS2 | 21: Shut Down |
| 04: FDC Fail | 10: Memory Socket Bad | 16: LAN | 22: Panel Fail |
| 05: HDC Fail | 11: Hang Up Software | 17: COM Port | 23: CRT Fail |
| 06: Bad Slot | 12: Out Look Damage | 18: Watchdog Timer | 24: Others (Pls specify) |

Request Party

Confirmed By Supplier

Authorized Signature / Date

Authorized Signature / Date