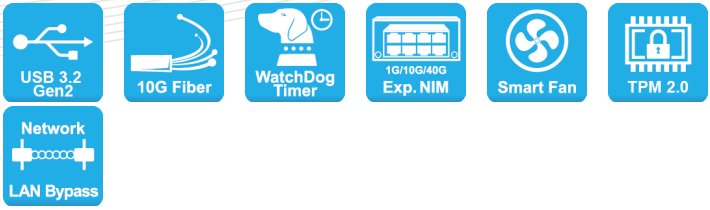
ANR-C621A1

2U 19” Rackmount Network Appliance
With Intel C621A PCH, Socket Type Dual CPU,
8x NIM Modules



User Manual

Acrosser Technology Co., Ltd.
www.acrosser.com

Disclaimer

For the purpose of improving reliability, design and function, the information in this document is subject to change without prior notice and does not represent a commitment on the part of Acrosser Technology Co., Ltd.

In no event will Acrosser Technology Co., Ltd. be liable for direct, indirect, special, incidental, or consequential damages arising out of the use or inability to use the product or documentation, even if advised of the possibility of such damages.

Copyright

Trademarks

The product names appear in this manual are for identification purpose only. The trademarks and product names or brand names appear in this manual are the property of their respective owners.

Purpose

This document is intended to provide the information about the features and use of the product.

Audience

The intended audiences are technical personnel, not for general audiences.

WARNING

Danger of explosion if batteries are incorrectly replaced. Always replace the battery with the same specifications. Dispose of used batteries according to the manufacturer's instructions.

Before running the system, make sure the power cord is firmly plugged into the socket.

CAUTION


IEC 60417-6042 (2010-11)


IEC 60417-6172 (2012-09)

All power cords must be disconnected during product repair.

Ver: 100
Date: Nov. 14, 2023

To read this User Manual on your smart phone, you will have to install an APP that can read PDF file format first. Please find the APP you prefer from the APP Market.

Table of Contents

1. Introduction

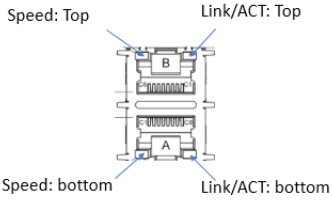
Acrosser has announced a new 2U rackmount edge network appliance named ANR-C621A1. This appliance is powered by dual Intel 3rd Gen Xeon Scalable Processors (Intel code name “Ice Lake-SP”).

The ANR-C621A1 is infused with Intel Crypto Acceleration, which enhances data protection and privacy by increasing the performance of encryption-intensive workloads including SSL web serving, 5G infrastructure, and VPN/firewalls, while reducing the performance impact of pervasive encryption. The ANR-C621A1 is an ideal product for UTM, SD-WAN, 5G MEC and IT/OT Cybersecurity.

1.1. Specifications

CPU	• Support 2x Intel® Xeon® Ice Lake-SP Processors • Dual Socket, Socket Type: LGA4189 • Core: Max. 38 Cores per CPU • UPI: Max. 3 Channels • TDP: Max. 165 Watts
Chipset	• Intel® C621A PCH Chipset • Intel® Lewisburg LBG-R(CPX-6)
Memory	• 16x 288 Pin DDR4 RDIMMs, Up to 3200MHz, Max. 512GB **Note:** 1. Support 8 Channels per CPU, Total 16 channels for Dual CPU, Max. Capacity: 256 GB per CPU (32GB/ DIMM, DDR4 RDIMM) 2. Primary slot (black color) must be populated per CPU socket
Ethernet	• 2x 1GbE RJ45 (Intel® I210-AT)
USB	• 2x Type A USB 2.0
Console	• 1x RJ-45 Console

MGMT	• 2x RJ45 Type MGMT Ports (Ethernet MDI Signal) • 1 (MGMT-2) for LAN socket (up) • 1 (MGMT-1) for MGMT ports (bottom) Speed: Yellow: 1G, Green: 100M Link/ACT: Green
LCM	• 1x LCM
LED	• 1x Power LED(Green) • 1x Status LED (Yellow/Red) (Bottom -> Top) • 1x HDD Active LED (Green)
Fan	• 4x System Fan
Expansion	• 1x PCI-E x16 slot (8-lane)
DC-in	• Full Range 1200W 1+1 Redundant Power Supply
Other	• 1x Power Switch Button
SATA	• 2x 2.5” Storage Devices w/ SATA III (6Gbps)
M.2	• 1x M.2 M Key 2280/2242 (SATA 3.0 or PCIe signal)
PCIe	• 1x PCIe[x16] slot (8-lane)
NIM Slot	• 8x NIM Slots
RTC	• Internal RTC
Watchdog Timer	• Software Programmable 0~255 seconds, 0=Disable
TPM	• TPM2.0
OS Support	• Windows Server 2016/2019 LTSC, Linux Ubuntu 20.04
Chassis	• Metal Chassis
Dimension	• 438 (W) x 660 (D) x 88 (H) mm 17.24” (W) x 25.98” (D) x 3.46” (H)
Weight	• 21.0 kg (46.3 lbs)
Operating Temperature	• 32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	• -4°F ~ 140°F (-20°C ~ 60°C)
Humidity	• 10%~90% @45°C relative humidity, non-condensing
Vibration	• Non-operating: 1.0 Grms (3~500Hz) Z-axis, duration 60 mins
Certification	• CE / FCC Class A



1.2. Packing List

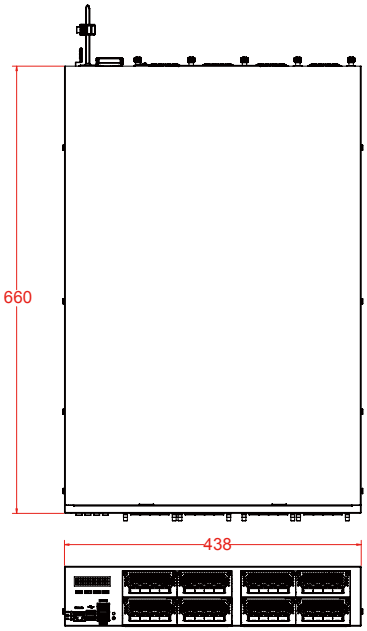
Check if the following items are included in the package.

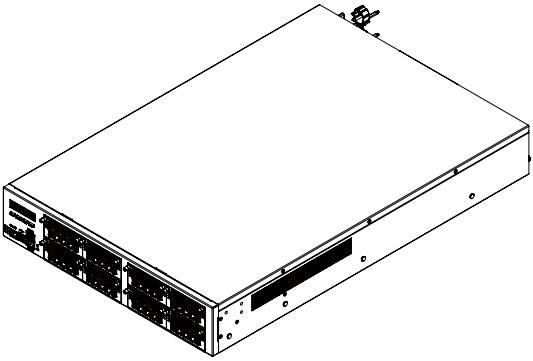
	Item	Q'ty
☐	ANR-C621A1	1
☐	Console cable, 160cm	1
☐	2.5" STAT data and power cable	2

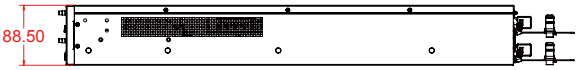
1.3. System Dissection

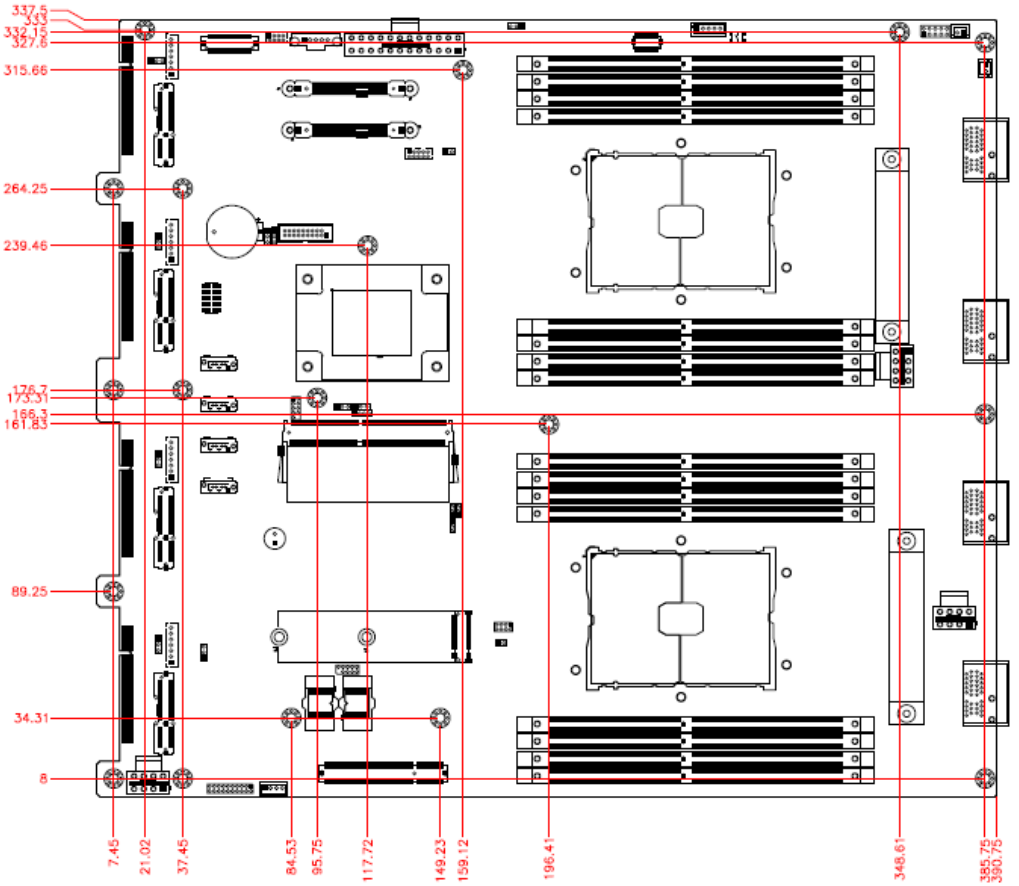
1.3.1. Dimensions

(Unit: mm)







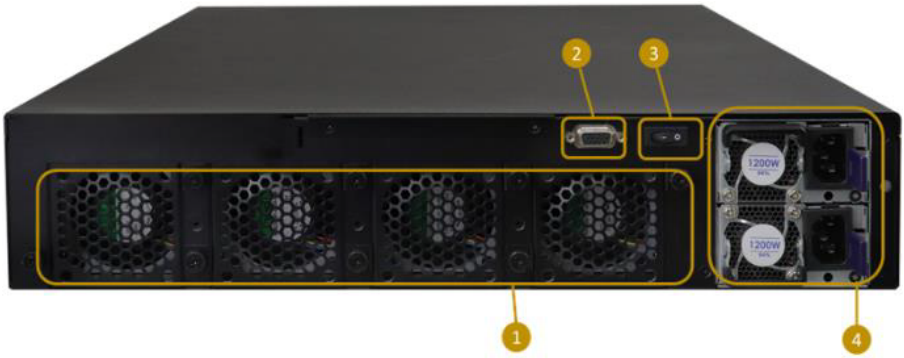

337.5
333
332.15
327.6
315.66
264.25
239.46
176.7
173.31
166.3
161.83
89.25
34.31
8
7.45
21.02
37.45
84.53
95.75
117.72
149.23
159.12
196.41
348.61
385.75
390.75

1.4. Product View

1.4.1. Front View

No.	Description
1	**LED Indicators** From top to bottom: Status-HDD-Power • **Status** Amber: operating normally Off: device is off • **HDD** Flashing green: HDD in use Off: HDD not in use • **POWER** Green: power on Off: power not detected
2	**Console Port**
3	**2x USB 2.0 Ports**
4	**MGMT Port**
5	**LCM Display with 4 buttons**
6	**NIC Modules** Up to 8 NIC modules, 64GbE ports Max.

1.4.2. Rear View



No.	Description
1	System Fans
2	VGA Port
3	Power Button (ATX mode)
4	Power Supply Units (Single / Redundant) 2 AC 100~240V Full range 1200W 1+1

2. Hardware Configuration

The information provided in this chapter includes:

- Memory Installation
- HDD Installation
- M.2 Card Installation
- Fan Module Installation
- SSL Card Installation
- Rackmount Installation Precautions
- Network Module Installation
- Redundant Power Supply Installation

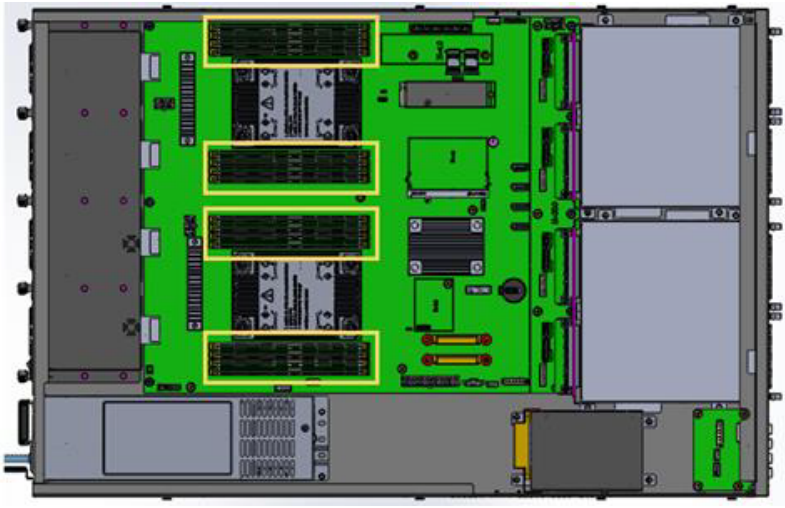
2.1. Installations

For installation or replacement of the memory modules, HDD/SSD, or other internal components, you need to disassemble the device cover first by loosening 9 screws as indicated below.

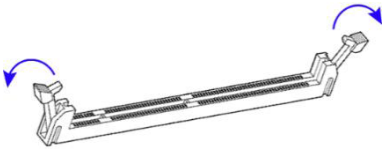
2.1.1. Memory Installation / Replacement

If you need to install or replace a memory module, follow the instructions below after you have removed the device cover.

Step 1: Locate the memory slots in the device.

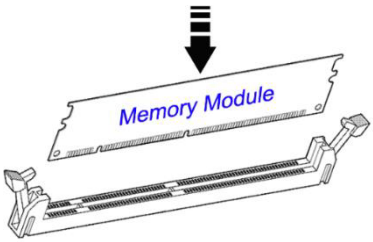


Step 2: Press the ejector tab of the memory slot down and outwards with your fingertips.



Step 3: Hold the memory module and align the key of the module with that on the memory slot.

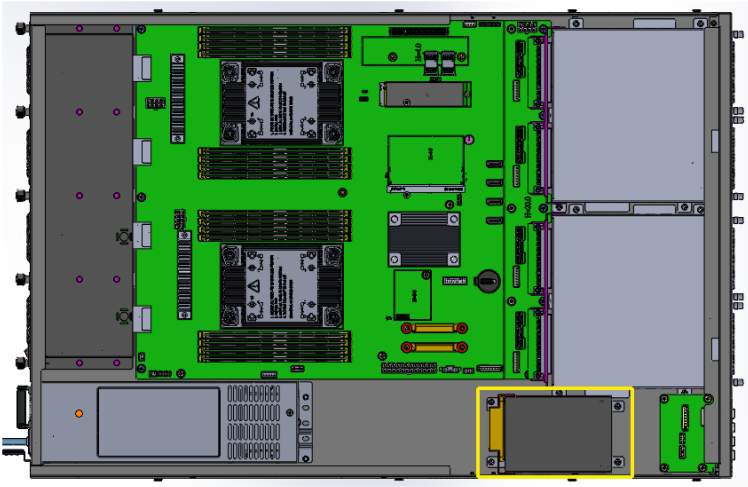
Step 4: Gently push the module in an upright position until the ejector tabs of the memory slot close to hold the module in place when the module touches the bottom of the slot.



To remove the module, press the ejector tabs outwards with your fingertips to eject the module.

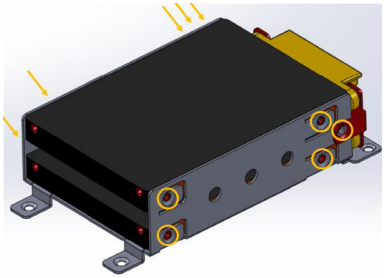
2.1.2. HDD Installation / Replacement

After removing the device cover, locate the HDD as shown below with an enclosed yellow box.



Step 1: Remove the four (4) screws indicated below to uninstall the HDD from the bottom chassis.

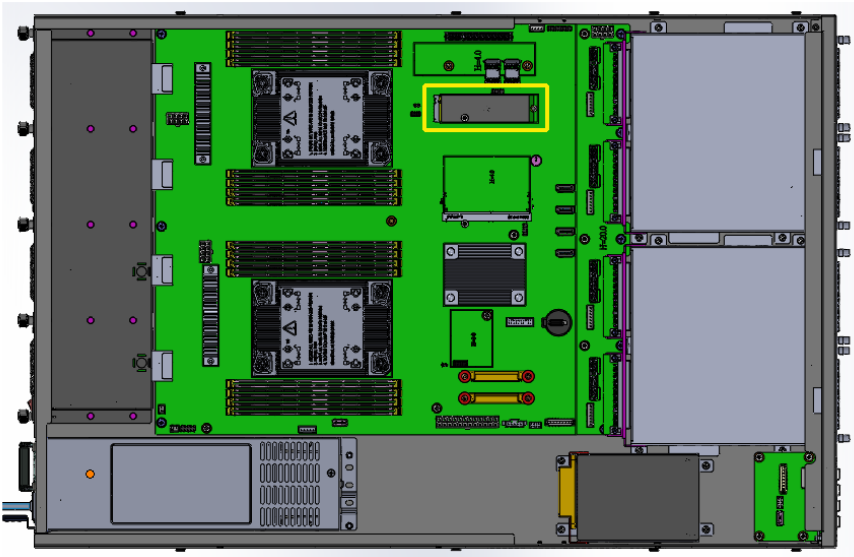
Step 2: Once the HDD tray has been removed, unfasten the screws (as shown by the circles and arrows) to uninstall the HDD from the tray.



Step 3: Replace the HDD tray back to its original location after installation/ replacement/removal of the HDD.

2.1.3. M.2 Card Installation / Replacement

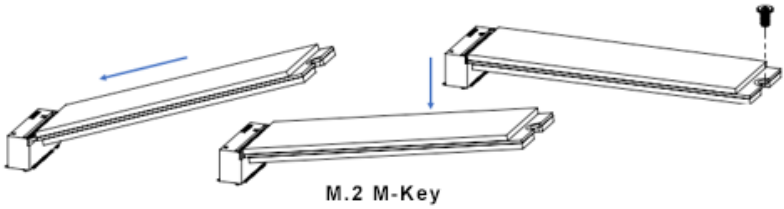
To remove and install the M.2 card, remove the device cover as mentioned in the previous section and locate that card socket.



Step 1: Locate the M.2 slot inside the device.

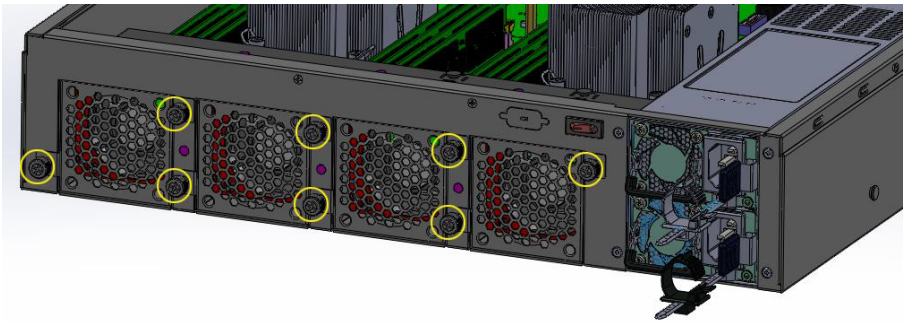
Step 2: Align the key of the M.2 card to the interface, and insert the card slantwise.

Step 3: Push the M.2 card down and fix it with the an M3 screw.



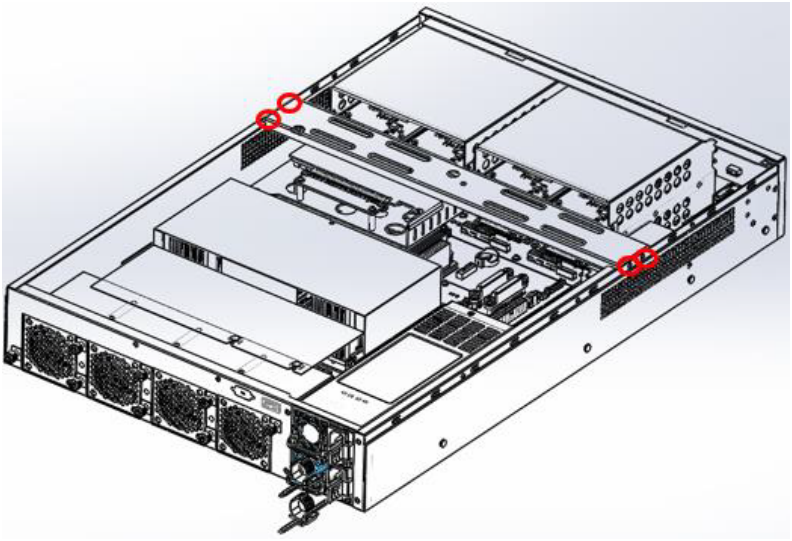
2.1.4. Fan Module Installation / Replacement

If you need to replace a fan module, remove the device cover and the corresponding screws of the fan module on the rear side as shown. Take out the fan, install a new one, and fasten the screws.

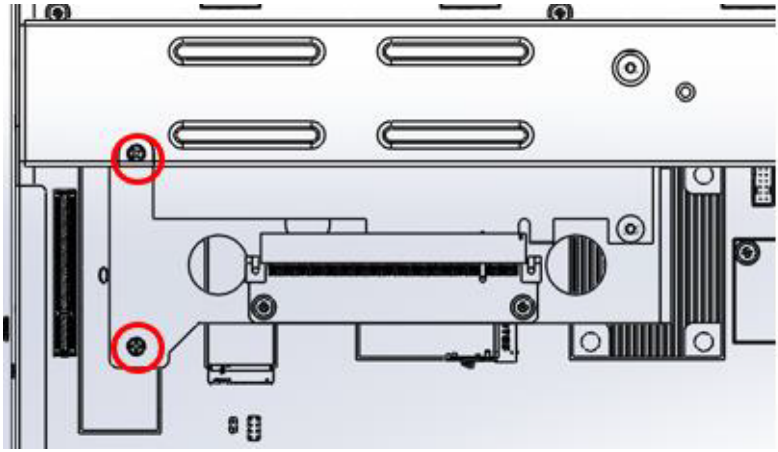


2.1.5. SSL Card Installation / Replacement

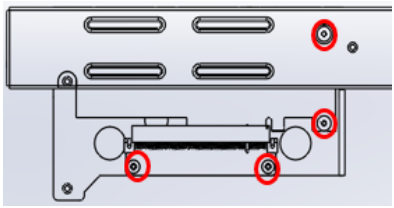
Step 1: Remove the device cover as described in the previous section. Unfasten the four (4) screws at the two edges as indicated in the picture below.



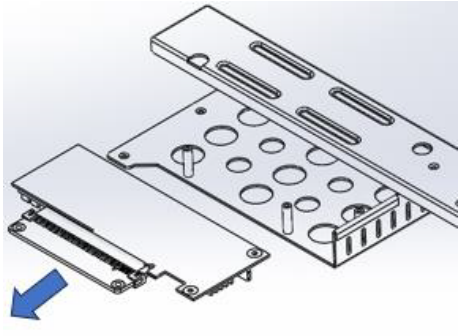
Step 2: Remove two (2) screws as shown in the picture below.



Step 3: Remove the four (4) screws that fasten the SSL card to the standoffs.



Step 4: The picture below shows the detached SSL card. Reverse the steps to install or reintall the SSL card in the system.



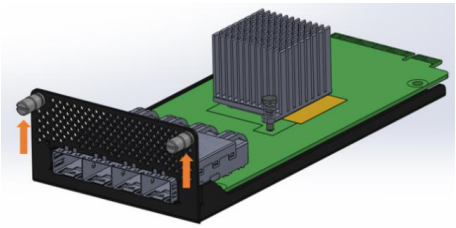
2.1.6. Rackmount Installation Precautions

Pay attention to the following during rackmount installation:

- The rack must be stabilized before sliding the unit out for servicing.
- Failure to stabilize may cause the rack to tip over.
- Electrostatic discharge (ESD) can damage your equipment.
- To avoid personal injury or damage to the unit, it is recommended that two or more people install the unit into the rack.
- Do not place heavy objects on the unit.
- Ensure the leveling jacks on the bottom of the rack are fully extended to the floor with the full weight of the rack resting on the jacks.
- For single rack installation, stabilizers should be attached to the rack.
- For multiple rack installations, the racks should be coupled together.
- Ensure the rack is stable before extending a component from the rack.
- Only extend one component at a time; extending two or more simultaneously may cause the rack to become unstable.

2.1.7. Network Module Installation

Release the two screws of the network module and pull it out carefully as shown below for replacement and installation.



2.1.8. Redundant Power Supply Installation

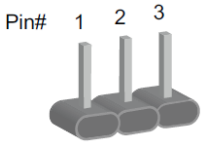
To install or replace a redundant power supply, push the latch inwards first. Grasp the handle, pull the PSU out carefully and replace it with a new one.

2.2. Setting the Jumpers

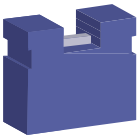
Set up and configure your device by using jumpers for various settings and features according to your needs and applications. Contact your supplier if you have doubts about the best configuration for your use.

2.2.1. How to Set Jumpers

Jumpers are short-length conductors consisting of several metal pins with a non-conductive base mounted on the circuit board. Jumper caps are used to have the functions and features enabled or disabled. If a jumper has 3 pins, you can connect either PIN1 to PIN2 or PIN2 to PIN3 by shorting.

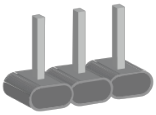
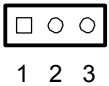
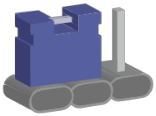
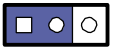
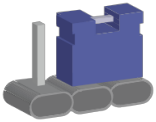
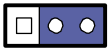


3-pin Jumper



Jumper Cap

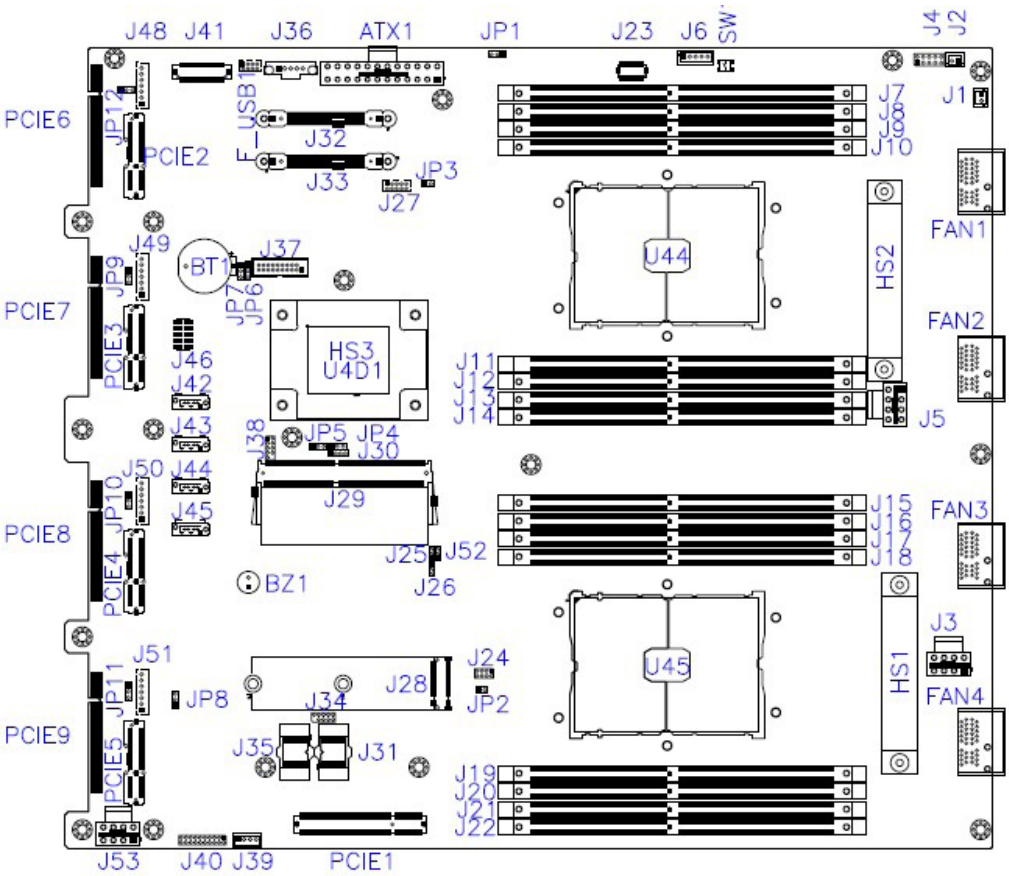
Refer to the illustration below to set jumpers.

Pin Closed	Oblique View	Jumper Settings
Open		 1 2 3
1-2		 1 2 3
2-3		 1 2 3

When two pins of a jumper are encased in a jumper cap, this jumper is **closed**, i.e. turned **On**.

When a jumper cap is removed from two jumper pins, this jumper is **open**, i.e. turned **Off**.

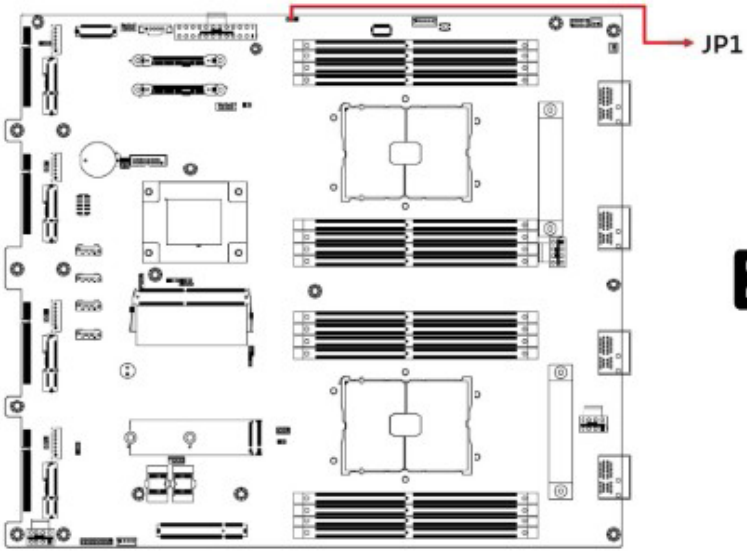
2.3. Jumper & Connector Locations on Motherboard

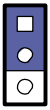


2.4. Jumpers Quick Reference

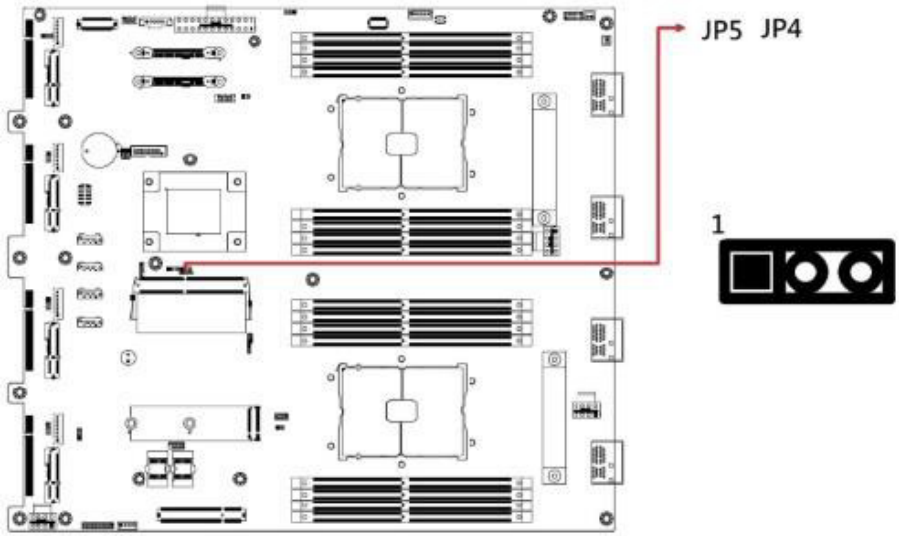
Function	Jumper
AT & ATX Mode Selection	JP1
BMC Setting	JP4, JP5
Clear CMOS	JP6

2.4.1. AT & ATX Mode Selection (JP1)



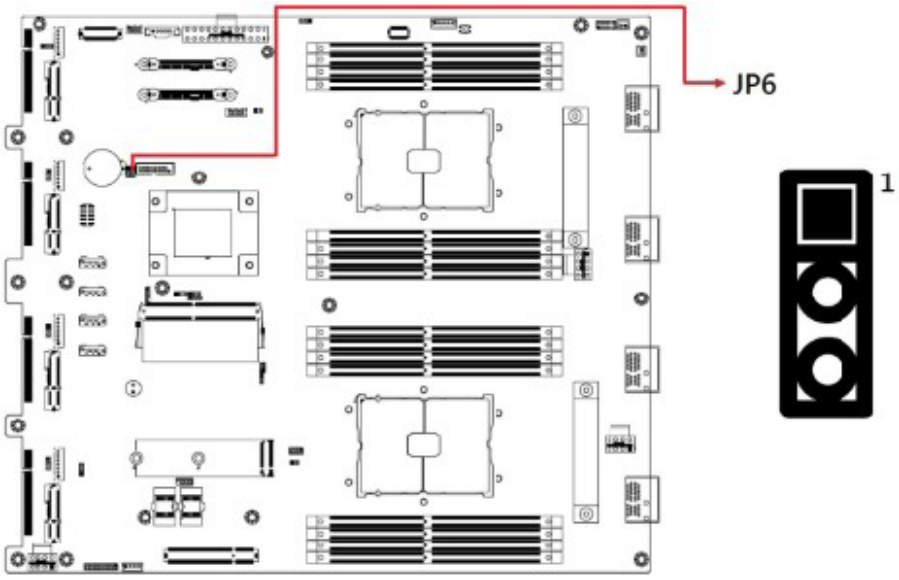
Function	Pin Closed	Setting
AT	1-2	
ATX (default)	2-3	

2.4.2. BMC Setting (JP4, JP5)



JP4/JP5 Settings		Function
JP4(2-3)	JP5(2-3)	Dual CPU, CPU Temp from PECI, Redundant PSU (default) [For MBN901]
JP4(2-3)	JP5(1-2)	Single CPU, CPU Temp from PECI, Redundant PSU
JP4(1-2)	JP5(2-3)	Single CPU, CPU Temp from PECI, Non PNBus
JP4(1-2)	JP5(1-2)	Single CPU, CPU Temp from NCT7904D Pin 8, NO PMBus

2.4.3. Clear CMOS (JP6)

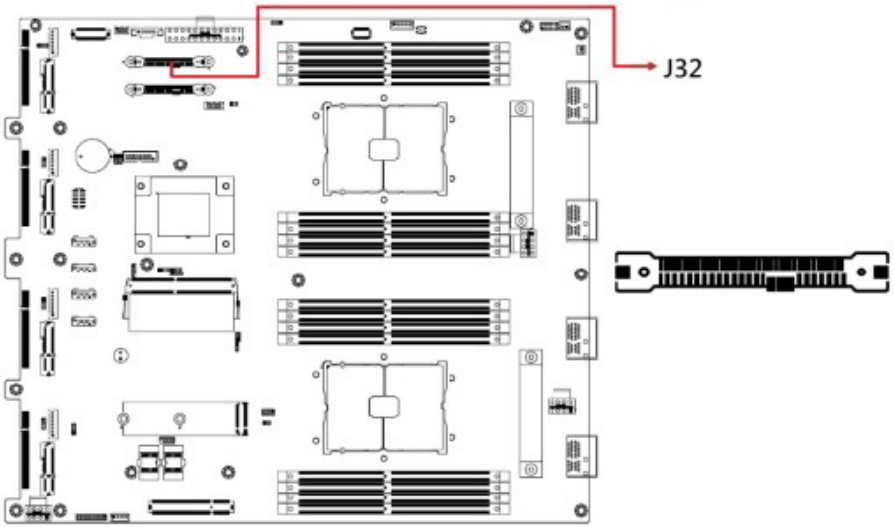


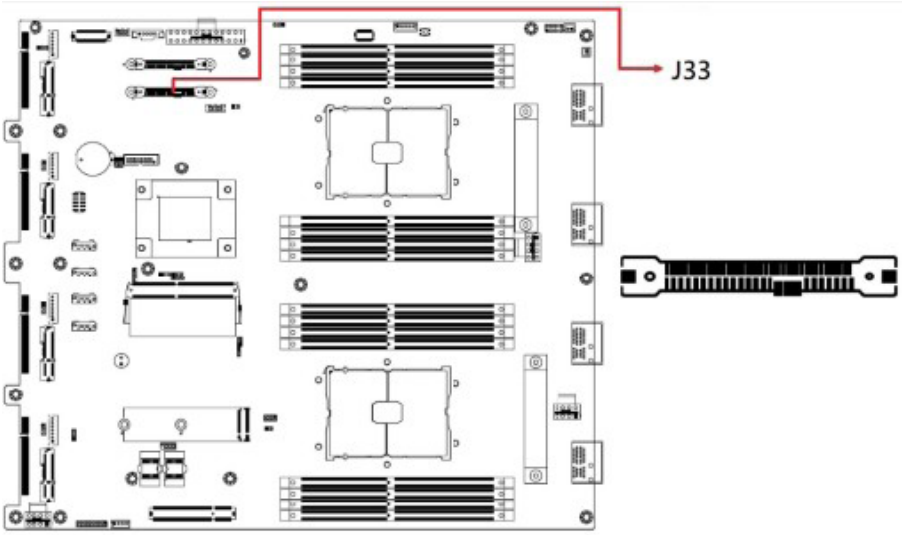
Function	Pin Closed	Setting
Normal RTC Reset (default)	1-2	1 
Clear RTC Registers	2-3	1 

2.5. Connectors Quick Reference

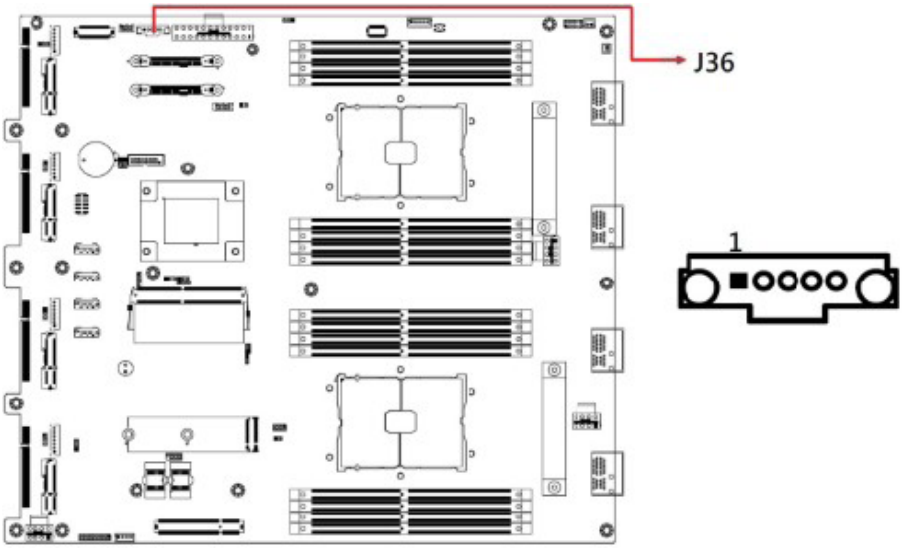
Connector Name	Function
J2	**ATX Power Button**
J3	**CPU1 12V Power Connector**
J4	**Front Panel Function**
J5	CPU2 12V Power Connector
J6	LCM Connector
J24	Digital I/O
J27	SGOPIO (cable to IP345 backplane)
J28	M.2 (2242 or 2280, SATA 3.0 / PCIe x4)
J29	BMC (IPMI)
J32, J33	U.2 Connector (SATA 3.0 / PCIe x4)
J36	PMBus Connector
J37	USB 3.0 Box Header
J41	LAN Port Connector
J42~J45	SATA Connector
J48~J51	Gen-Z Cable Power Connector
J53	System 12V Power Connector

2.5.1. U. 2 Connector for SATA 3.0 / PCIe x4 (J32, J33)

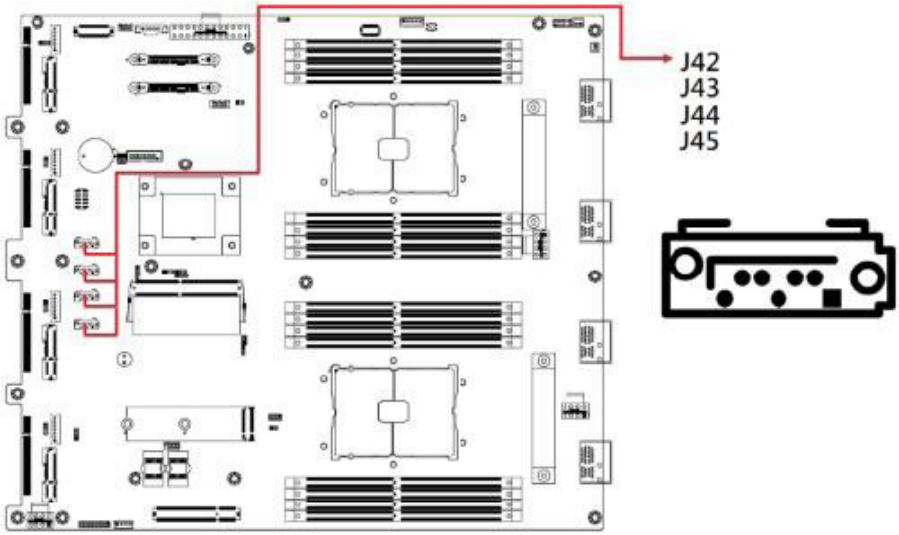




2.5.2. PMBus Connector (J36)



2.5.3. SATA Connector (J42, J43, J44, J45)

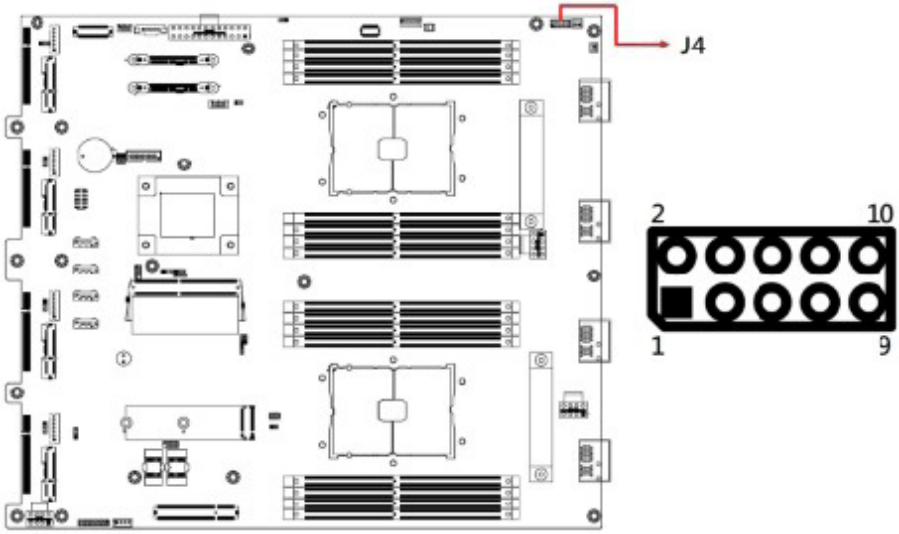


2.5.4. System Fan (FAN1, FAN2, FAN3, FAN4)

2.5.5. ATX Power Button (J2)

2.5.6. CPU1 12V Power Connector (J3)

2.5.7. Front Panel Function (J4)



Pin #	Signal Name	Pin #	Signal Name
1	ATX PW SW	2	ATX PW SW
3	Reset SW (+)	4	Reset SW (-)
5	PW LED(+)	6	PW LED(-)
7	HDD LED(+)	8	HDD LED(-)
9	NA	10	NA

2.5.8. CPU2 12V Power Connector (J5)

2.5.9. LCM Connector (J6)

2.5.10. 20-pin COM Port Connector (J23)

2.5.11. DIO Pin Header (J24)

2.5.12. SGPIO Pin Header (J27)

Remarks: Use cable to connect to IP345 Backplane.

2.5.13. M.2 Connector [2242 or 2280] SATA3.0 & PCIe x4 (J28)

2.5.14. BMC Connector (IPMI) (J29)

2.5.15. U.2 Connector SATA3.0 & PCIe x4 (J32, J33)

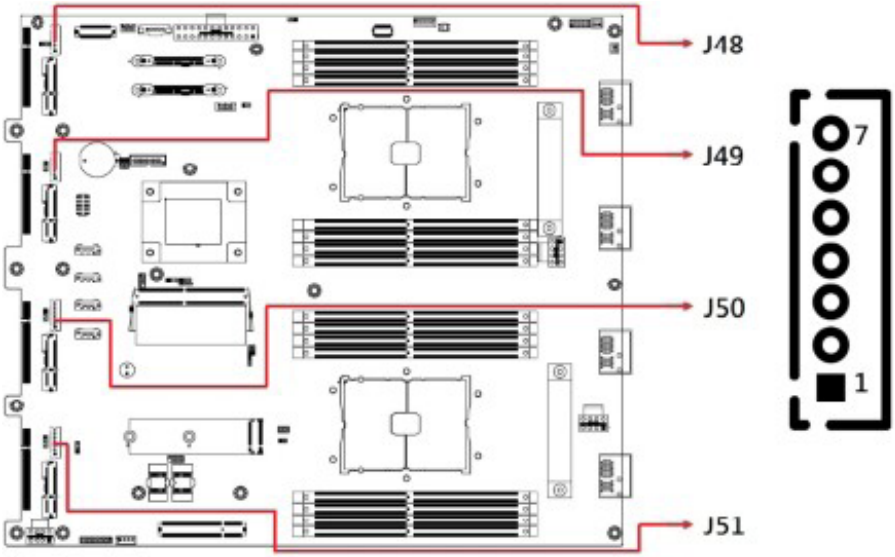
2.5.16. PMBus Connector (J36)

2.5.17. USB3.0 Box Header (J37)

2.5.18. J30-pin LAN Port Connector (41)

2.5.19. SATA Connector (J42, J43, J44, J45)

2.5.20. Gen-Z Cable Power Connector (J48, J49, J50, J51)



Pin #	Signal Name
1	P12V
2	P3V3
3	P3V3
4	Ground
5	Ground
6	P5V
7	5V Dual

2.5.21. System 12V Power Connector (J53)

3. BIOS Settings

This chapter describes the different settings available in the AMI BIOS that comes with the board. The topics covered in this chapter are as follows:

- Main Settings
- Advanced Settings
- Chipset Settings
- Security Settings
- Book Settings
- Save & Exit

3.1. Introduction

The BIOS (Basic Input/Output System) installed in the ROM of your computer system supports Intel® processors. The BIOS provides critical low-level support for standard devices such as disk drives, serial ports and parallel ports. It also provides password protection as well as special support for detailed fine-tuning of the chipset controlling the entire system.

3.2. BIOS Setup

The BIOS provides a Setup utility program for specifying the system configurations and settings. The BIOS ROM of the system stores the Setup utility. When you turn on the computer, the BIOS is immediately activated. Press the <Del> key immediately allows you to enter the Setup utility. If you are a little bit late pressing the <Del> key, POST (Power On Self Test) will continue with its test routines, thus preventing you from invoking the Setup.

If you still need to enter Setup, restart the system by pressing the ”Reset” button or simultaneously pressing the <Ctrl>, <Alt> and <Delete> keys. You can also restart by turning the system Off and back On again.

The following message will appear on the screen:

```
Press <DEL> to Enter Setup
```

In general, press the arrow keys to highlight items, <Enter> to select, the <PgUp> and <PgDn> keys to change entries, <F1> for help, and <Esc> to quit.

When you enter the BIOS Setup utility, the Main Menu screen will appear on the screen. The Main Menu allows you to select from various setup functions and exit choices.

Warning: It is strongly recommended that you avoid making any changes to the chipset defaults.

These defaults have been carefully chosen by both AMI and your system manufacturer to provide the absolute maximum performance and reliability. Changing the defaults could make the system unstable and crash in some cases

3.3. Main Settings

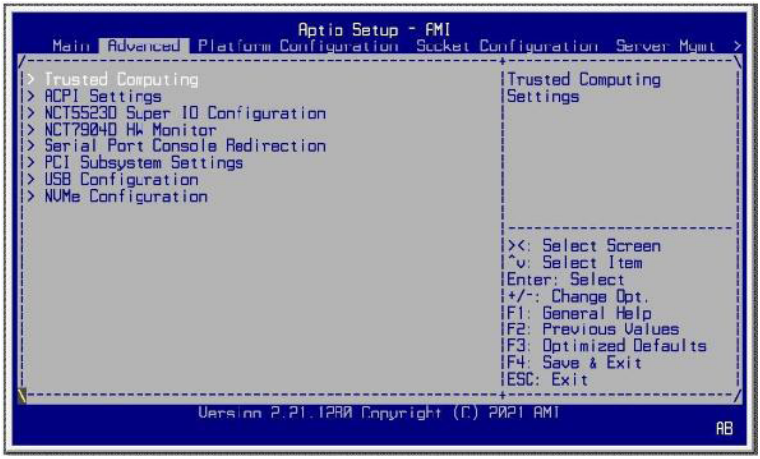
In the main settings section, the BIOS version and system memory information are shown. It also allows you to configure the date and time settings.

- **System Date**
  Sets the date. Use the <Tab> key to switch between the date elements.
- **System Time**
  Set the time. Use the <Tab> key to switch between the time elements.

3.4. Advanced Settings

This section allows you to configure, improve your system and allows you to set up some system features according to your preference. Settings in this section covers:

- Trusted Computing
- ACPI Settings
- NCT55230 Super IO Configuration
- NCT78940 HW Monitor
- Serial Port Console Redirection
- PCI Subsystem Settings
- USB Configuration
- NVME Configuration



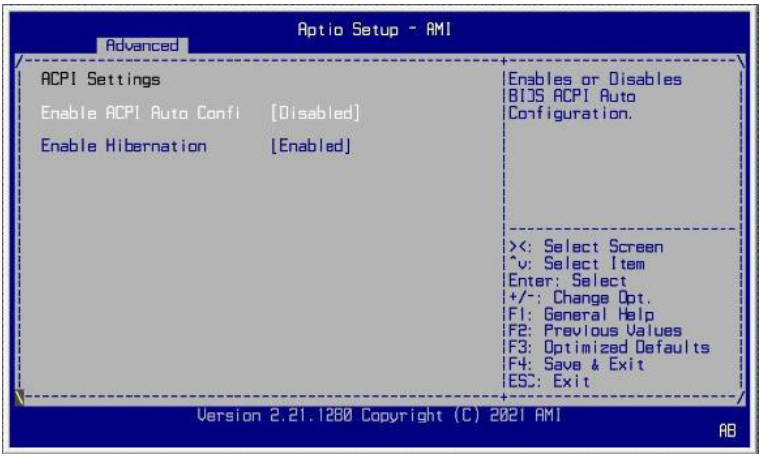
3.4.1. Trusted Computing

- **Security Device Support**
  Enables / Disables BIOS support for security device. O.S. will not show security device. TCG EFI protocol and INT1A interface will not be available.

- **Pending operation**
  Schedule an operation for the security device.

  Note: Your computer will reboot during restart in order to change the state of security device.

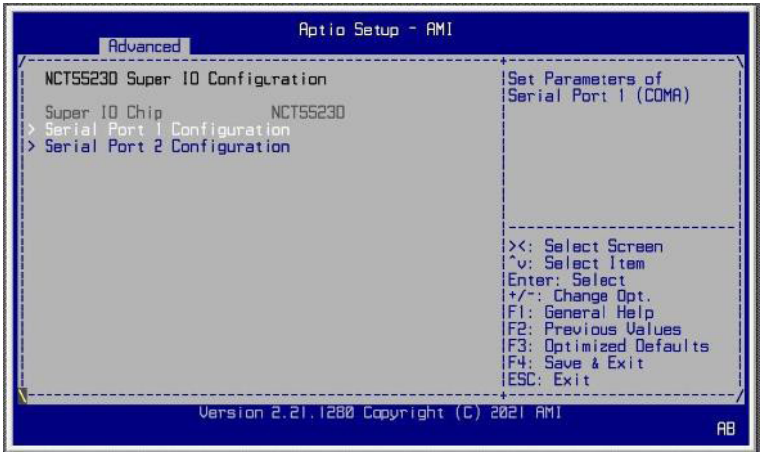
3.4.2. ACPI Settings



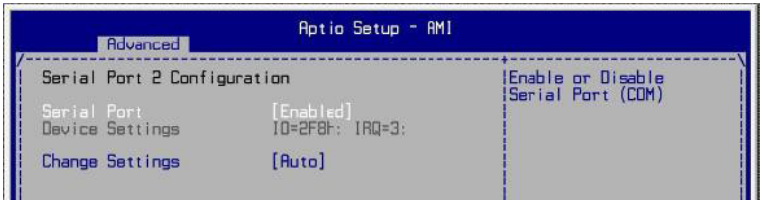
- **Enable ACPI Auto Configuration**
  Enables / Disables BIOS ACPI Auto Configuration.

- **Enable Hibernation**
  Enables / Disables system ability to hibernate (OS/S4 Sleep State). This option may not be effective with some operating systems.

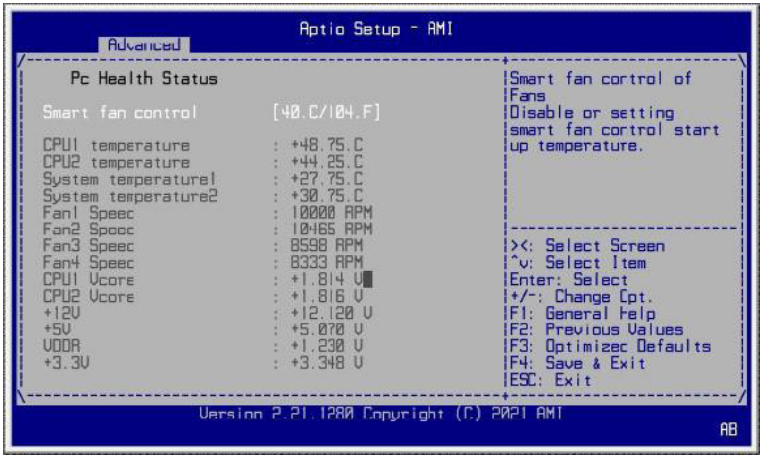
3.4.3. NCT552130 Settings



- **Serial Port Configuration**
  Sets parameters of Serial Ports. Enables / Disables the serial port and select an optimal setting for the Super IO device.



3.4.4. NCT78940 HW Monitor



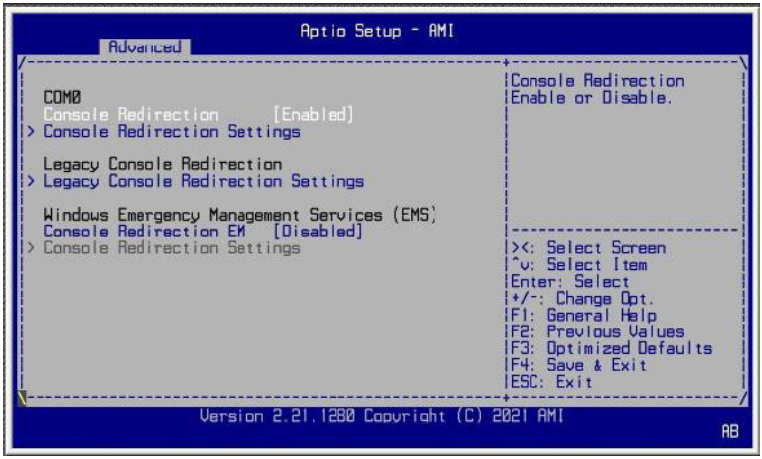
- **Smart Fan Control**

  Disable or setting smart fan control start up temperature.

- **Temperatures / Voltages**

  These fields are the parameters of the hardware monitoring function feature of the motherboard. The values are read-only values as monitored by the system and show the PC health status.

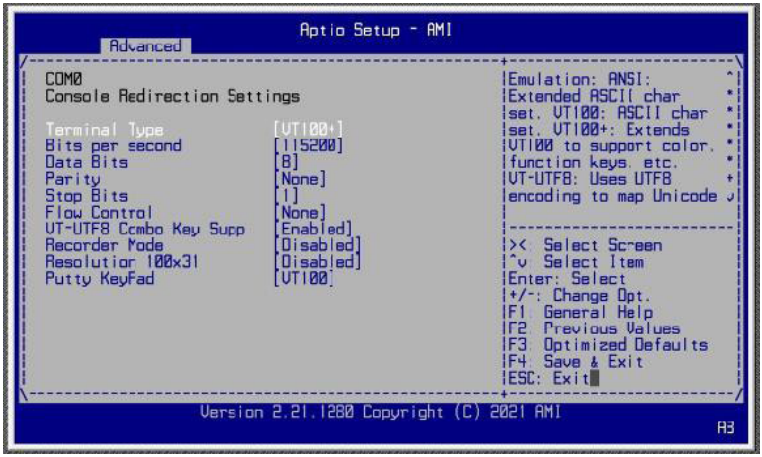
3.4.5. Serial Port Console Redirection



- **Console Redirection**

  Allows you to enable or disable the console redirection feature.

- **Console Redirection Settings**
  These items become configurable only when you enable the Console Redirection item. The settings specify how the host computer and the remote computer (which the user is using) will exchange data. Both computers should have the same or compatible settings.



- **Terminal Type**
  Emulation:

  ANSI: Extended ASCII charset.

  VT100: ASCII charset.

  VT100+: Extends VT100 to support color, function keys, etc.

  VT-UTF8: Uses UTF8 encoding to map Unicode

- **Bits per second**
  Selects serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds.

  Options: 9600, 19200, 38400, 57600, 115200

- **Data Bits**
  Options: 7, 8

- **Parity**
  A parity bit can be sent with the data bits to detect some transmission errors. Even: parity bit is 0 if the num of 1's in the data bits is even.

  Options: None, Even, Odd, Mark, Space

- **Stop Bits**
  Stop bits indicate the end of a serial data packet. (A start bit indicates the beginning). The standard setting is 1 stop bit.

  Options: 1, 2

- **Flow Control**
  Flow control can prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a “stop” signal can be sent to stop the data flow.

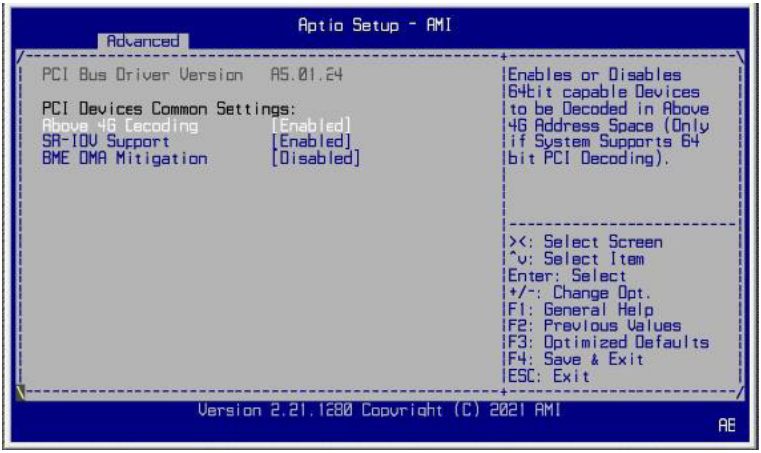
  Options: None, Hardware RTS/CTS
- **VT-VTF8 Combo Key Support**
  Enables / Disables VT-UTFB combination key support for ANSI/VT100 terminals.
- **Recorder Mode**
  With this mode enabled, only text will be sent. This is to capture terminal data.
- **Resolution 100x31**
  Enables / Disables extended terminal resolution.
- **Putty Key pad**
  Select FunctionKey and keyPad on Putty. Options: VT100, LINUX, XTERMR6, SC0, ESCN, VT400

- **Legacy Console Redirection Port**
  Allows you to select a COM port to display redirection of Legacy OS and Legacy OPROM Messages.

  Options: [COM1] [COM2
- **Redirection COM Port**
  Select a COM port to display redirection of Legacy OS and Legacy OPROM Messages.
- **Redirection After POST**
  This setting allows you to specify if Bootloader is selected than Legacy console redirection

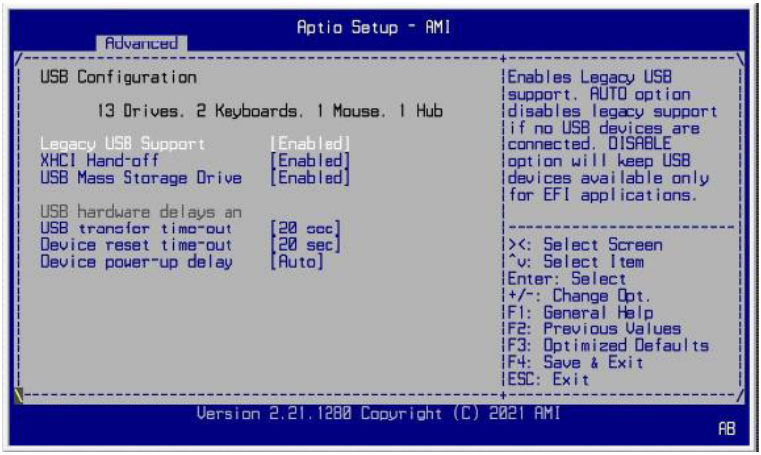
  Default setting: Always Enable

3.4.6. PCI Subsystem Settings



- **Above 4G Decoding**
  This item enables or disables 64bit capable Devices to be Decoded in Above 4G Address Space (Only if System Supports 64bit PCI Decoding).
- **SR-IOV Support**
  This item if system has SR-IOV capable PCIe Devices, this option enables or disables Single Root IO Virtualization Support.
- **BME DMA Mitigation**
  This item Re-enable Bus Master Attribute disabled during Pci enumeration for PCI Bridges after SMM Locked.

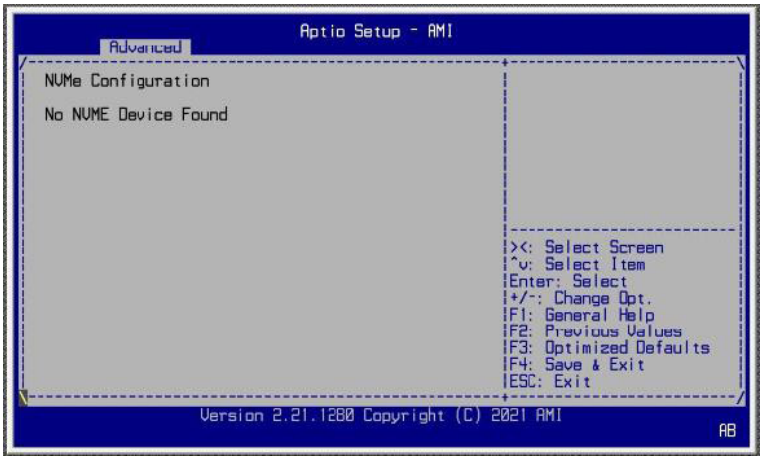
3.4.7. USB Configuration



- **Legacy USB Support**
  - Enable: Enables Ledacy USB Support.
  - Auto: Disables legacy support if no USB devices are connected.
  - Disable: Keeps USB devices available only for EFI applications.
- **XHCI Hand-off**
  This is a workaround for OSes without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.
- **USB Mass Storage Driver Support**
  Enables / Disables the support for USB mass storage driver.
- **USB Transfer time-out**
  The time-out value for Control, Bulk, and Interrupt transfers.
- **Device reset time-out**
  Seconds of delaying execution of start unit command to USB mass storage device.
- **Device power-up delay**
  The maximum time the device will take before it properly reports itself to the Host Controller.

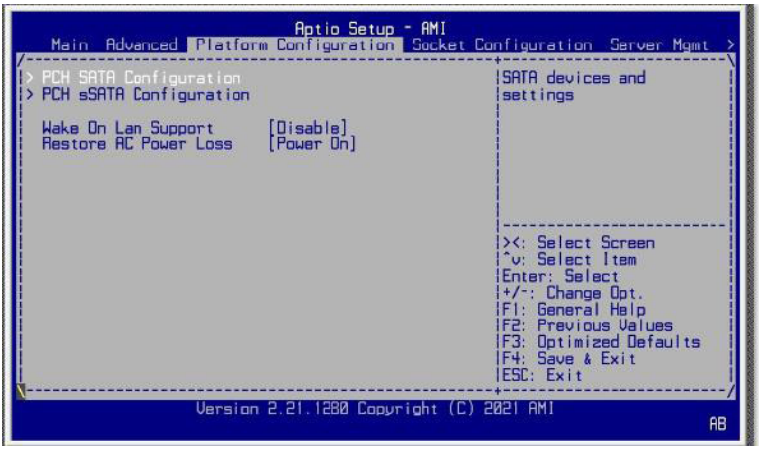
  “Auto” uses default value for a Root port it is 100ms. But for a Hub port, the delay is taken from Hub descriptor.

3.4.8. NVMe Configuration

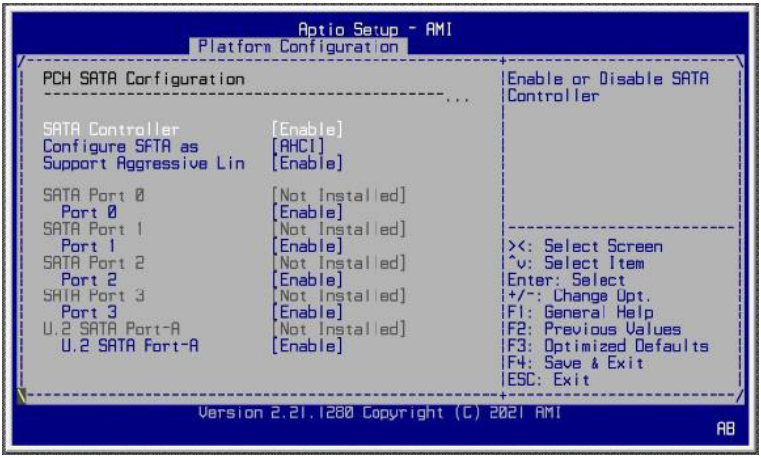


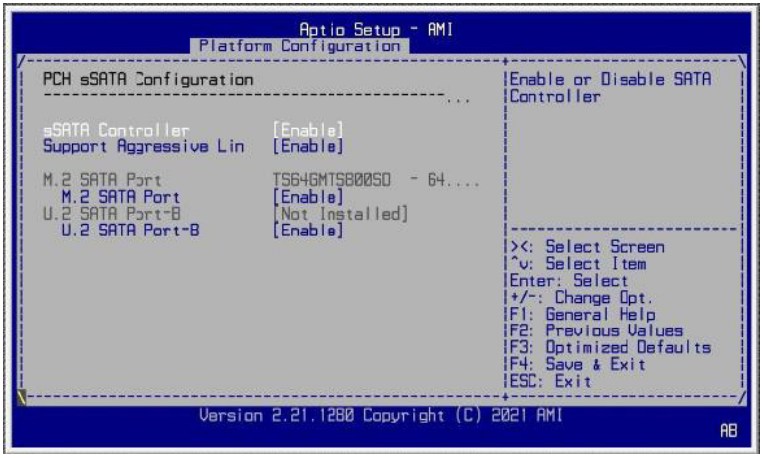
3.5. Platform Configuration

This section allows you to configure PCH SATA and eSATA settings.



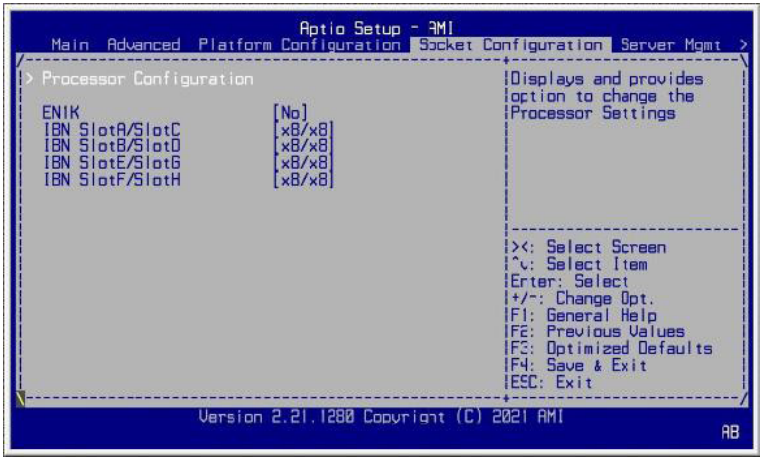
- **PCH SATA and eSATA Configuration**
  SATA device options and settings
- **Wake on LAN Enable**
  Enables / Disables integrated LAN to wake the system.
- **Restore AC Power Loss**
  Select AC power state when power is re- applied after a power failure. Options: Power Off, Power On, Last State.



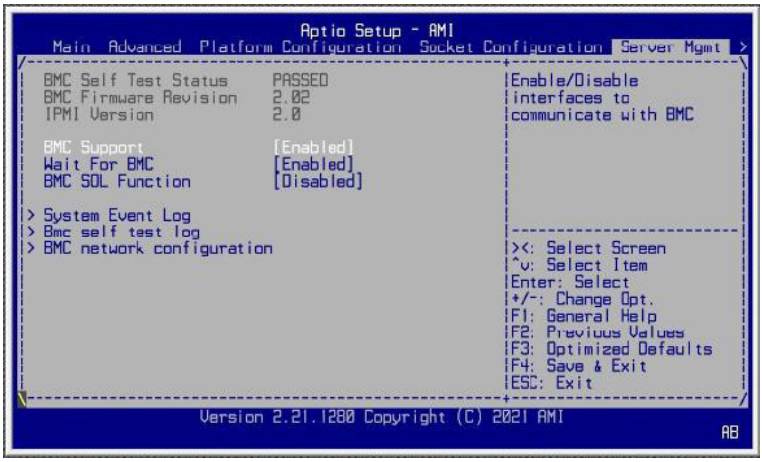


3.6. Socket Configuration

This section is for processor configuration. It displays and provides options to change the processor settings.



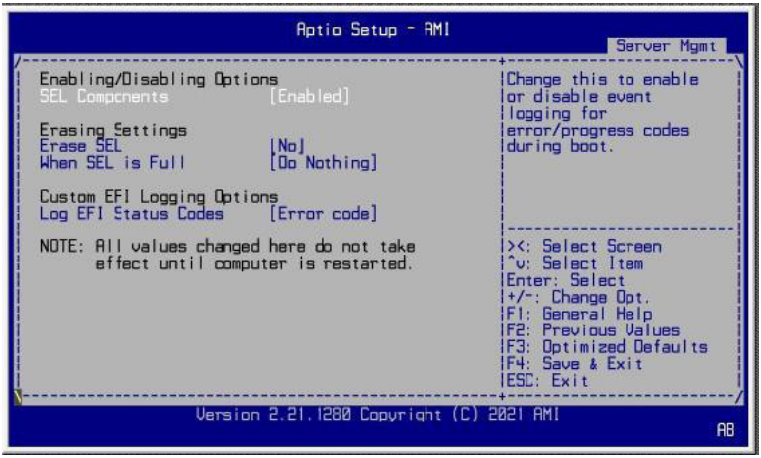
3.7. Server Management

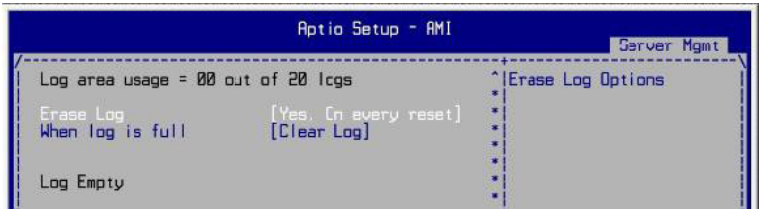


- **BMC Support**
  Enables / Disables interfaces to communicate with BMC.
- **Wait For BMC**
  Wait For BMC reponse for specified time out.
- **BMC SOL Function**
  Enables / Disables BMC SOL function.

  Enable: will inactive and clear IRQ and IObase of UART1.

  Disable: keep original IRQ, IObase and active UART1
- **System Event Log**
  Allows you to configure the settings for system event log.
- **BMC self test log**
  Allows you to configure when to erase the log.
- **BMC Network Configuration**
  Configures BMC network parameters.



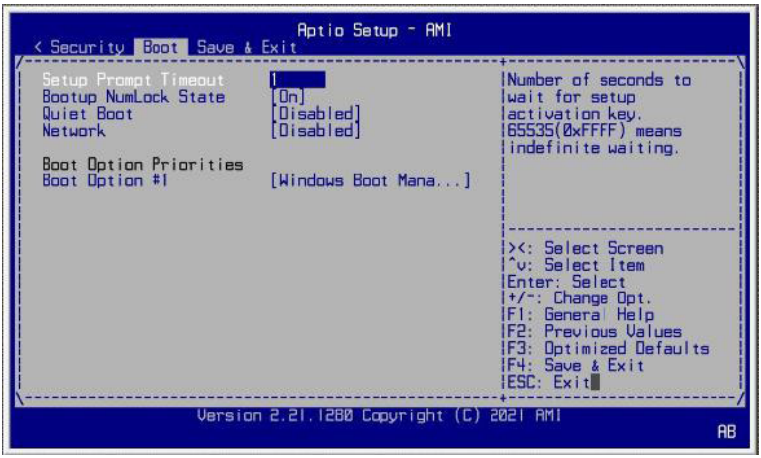


- **SEL Components**
  Enables / Disables all features of system event logging during boot.
- **Erase SEL**
  Allows you to choose options for erasing SEL.
  Options: No, Yes on next reset, Yes on every reset
- **When SEL is Full**
  Allows you to choose options for reactions to a full SEL.
  Options: Do nothing, Erase immediately
- **Log EFI Status Codes**
  Disables the logging of EFI status codes or log only error code or only progress code or both.
  Options: Disabled, Both, Error code, Progress code

3.8. Security Settings

- **Administrator Password**
  Sets an administrator password for the setup utility.
- **User Password**
  Sets a user password.

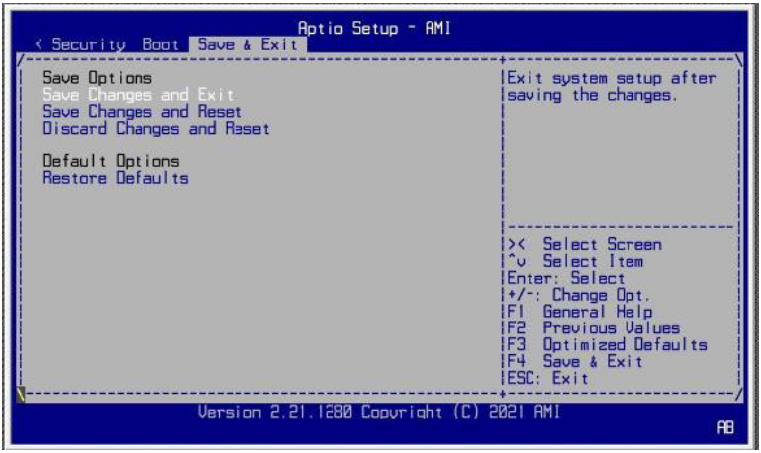
3.9. Boot Settings



- **Setup Prompt Timeout**
  Number of seconds to wait for setup activation key.
  65535 (0xFFFF) means indefinite waiting.

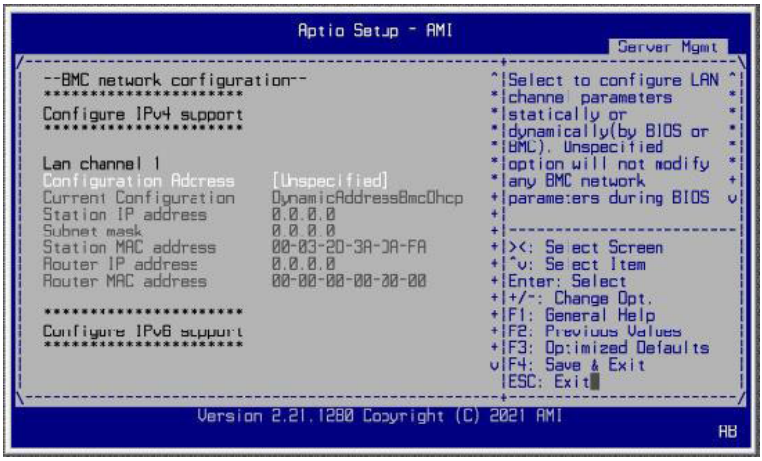
- **Bootup NumLock State**
  Turns on/off the keyboard NumLock state.
- **Quiet Boot**
  Enables / Disables Quiet Boot option.
- **Network**
  Enables / Disables Network
- **Boot Option Priorities**
  Sets the system boot order.

3.10. Save & Exit Settings



- **Save Changes and Exit**
  Exits system setup after saving the changes.
- **Save Changes and Reset**
  Resets the system after saving the changes.
- **Discard Changes and Reset**
  Resets system setup without saving any changes.
- **Restore Defaults**
  Restores / Loads defaults values for all the setup options.

3.11. Server Management Settings



BMC network configuration: LAN Channel 1

- **Configuration Address source**
  Select to configure LAN channel parameters statically or dynamically (DHCP). Do nothing option will not modify any BMC network parameters during BIOS phase.

  Options available: Unspecified / Static / DynamicBmcDhcp.

  Default setting is DynamicBmcDhcp

- **Station IP address**
  Displays IP Address information

- **Subnet mask**
  Displays Subnet Mask information

  Please note that the IP address must be in three digitals for example 192.168.000.001.

- **Router IP address**
  Displays the Router IP Address information

4. Appendix

This section provides the mapping addresses of peripheral devices and the sample code of watchdog timer configuration.

- I/O Port Address Map
- Interrupt Request Lines (IRQ)

4.1. I/O Port Address Map

Each peripheral device in the system is assigned a set of I/O port addresses which also becomes the identity of the device. The following table lists the I/O port addresses used.

Address	Device Description
0x00000A00-0x00000A0F	Motherboard resources
0x00000A10-0x00000A1F	Motherboard resources
0x00000A20-0x00000A2F	Motherboard resources
0x0000D000-0x0000D07F	NVIDIA GeForce GT 730
0x0000D000-0x0000D07F	Intel(R) Atom(TM) processor C3000 product family PCIe Root Port 0 - 19A4
0x000003B0-0x000003BB	NVIDIA GeForce GT 730
0x000003B0-0x000003BB	Intel(R) Atom(TM) processor C3000 product family PCIe Root Port 0 - 19A4
0x000003C0-0x000003DF	NVIDIA GeForce GT 730
0x000003C0-0x000003DF	Intel(R) Atom(TM) processor C3000 product family PCIe Root Port 0 - 19A4
0x00000062-0x00000062	Microsoft ACPI-Compliant Embedded Controller
0x00000066-0x00000066	Microsoft ACPI-Compliant Embedded Controller
0x00000040-0x00000043	System timer
0x00000050-0x00000053	System timer
0x00007000-0x00007FFF	Intel(R) Atom(TM) processor C3000 product family PCIe Root Port 7 - 19AB
0x0000E000-0x0000E01F	Intel(R) Atom(TM) processor C3000 product family Legacy SMBus - 19DF
0x000003F8-0x000003FF	Communications Port (COM1)
0x000002F8-0x000002FF	Communications Port (COM2)
0x0000B000-0x0000BFFF	Intel(R) Atom(TM) processor C3000 product family PCIe Root Port 3 - 19A7
0x00000000-0x00000CF7	PCI Express Root Complex

Address	Device Description
0x00000D00-0x0000FFFF	PCI Express Root Complex
0x00000070-0x00000077	System CMOS/real time clock
0x00000070-0x00000077	Motherboard resources
0x00009000-0x00009FFF	Intel(R) Atom(TM) processor C3000 product family PCIe Root Port 5 - 19A9
0x00008000-0x00008FFF	Intel(R) Atom(TM) processor C3000 product family PCIe Root Port 6 - 19AA
0x0000002E-0x0000002F	Motherboard resources
0x0000004E-0x0000004F	Motherboard resources
0x00000061-0x00000061	Motherboard resources
0x00000063-0x00000063	Motherboard resources
0x00000065-0x00000065	Motherboard resources
0x00000067-0x00000067	Motherboard resources
0x00000080-0x00000080	Motherboard resources
0x00000092-0x00000092	Motherboard resources
0x000000B2-0x000000B3	Motherboard resources
0x00000680-0x0000069F	Motherboard resources
0x00000500-0x000005FE	Motherboard resources
0x0000C000-0x0000CFFF	Intel(R) Atom(TM) processor C3000 product family PCIe Root Port 2 - 19A6
0x0000E050-0x0000E057	Standard SATA AHCI Controller
0x0000E040-0x0000E043	Standard SATA AHCI Controller
0x0000E020-0x0000E03F	Standard SATA AHCI Controller
0x00000020-0x00000021	Programmable interrupt controller
0x00000024-0x00000025	Programmable interrupt controller
0x00000028-0x00000029	Programmable interrupt controller
0x0000002C-0x0000002D	Programmable interrupt controller
0x00000030-0x00000031	Programmable interrupt controller
0x00000034-0x00000035	Programmable interrupt controller
0x00000038-0x00000039	Programmable interrupt controller
0x0000003C-0x0000003D	Programmable interrupt controller
0x000000A0-0x000000A1	Programmable interrupt controller
0x000000A4-0x000000A5	Programmable interrupt controller
0x000000A8-0x000000A9	Programmable interrupt controller
0x000000AC-0x000000AD	Programmable interrupt controller

Address	Device Description
0x000000B0-0x000000B1	Programmable interrupt controller
0x000000B4-0x000000B5	Programmable interrupt controller
0x000000B8-0x000000B9	Programmable interrupt controller
0x000000BC-0x000000BD	Programmable interrupt controller
0x000004D0-0x000004D1	Programmable interrupt controller
0x0000A000-0x0000AFFF	Intel(R) Atom(TM) processor C3000 product family PCIe Root Port 4 - 19A8

4.2. Interrupt Request Lines (IRQ)

Peripheral devices use interrupt request lines to notify CPU for the service required. The following table shows the IRQ used by the devices on board.

Level	Function
IRQ 0	System timer
IRQ 3	Communications Port (COM2)
IRQ 4	Communications Port (COM1)
IRQ 8	System CMOS/real time clock
IRQ 11	Intel(R) Atom(TM) processor C3000 product family Trace Hub - 19E2
IRQ 11	Intel(R) Atom(TM) processor C3000 product family Management Engine Interface - 19D3
IRQ 11	Intel(R) Atom(TM) processor C3000 product family Host SMBus - 19AC
IRQ 15	Intel(R) Atom(TM) processor C3000 product family Legacy SMBus - 19DF
IRQ 16	NVIDIA GeForce GT 730
IRQ 17	High Definition Audio Controller
IRQ 23	Intel(R) Atom(TM) processor C3000 product family RCEC - 19A2
IRQ 54 ~ IRQ 204	Microsoft ACPI-Compliant System
IRQ 256 ~ IRQ 511	Microsoft ACPI-Compliant System
IRQ 4294967096 ~ IRQ 4294967113	Intel(R) I211 Gigabit Network Connection #3
IRQ 4294967114 ~ IRQ 4294967131	Intel(R) I211 Gigabit Network Connection #5

Level	Function
IRQ 4294967132 ~ IRQ 4294967149	Intel(R) I211 Gigabit Network Connection #2
IRQ 4294967150 ~ IRQ 4294967167	Intel(R) I211 Gigabit Network Connection
IRQ 4294967168 ~ IRQ 4294967185	Intel(R) I211 Gigabit Network Connection #6
IRQ 4294967186 ~ IRQ 4294967203	Intel(R) I211 Gigabit Network Connection #4
IRQ 4294967204	Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)
IRQ 4294967205 ~ IRQ 4294967222	Intel(R) Ethernet Connection X553 10 GbE SFP+ #7
IRQ 4294967223 ~ IRQ 4294967240	Intel(R) Ethernet Connection X553 10 GbE SFP+ #6
IRQ 4294967241 ~ IRQ 4294967258	Intel(R) Ethernet Connection X553 10 GbE SFP+ #8
IRQ 4294967259 ~ IRQ 4294967276	Intel(R) Ethernet Connection X553 10 GbE SFP+ #5
IRQ 4294967277 ~ IRQ 4294967284	Standard SATA AHCI Controller
IRQ 4294967285	Intel(R) Atom(TM) processor C3000 product family PCIe Network Root Port 1 - 19D2
IRQ 4294967286	Intel(R) Atom(TM) processor C3000 product family PCIe Network Root Port 0 - 19D1
IRQ 4294967287	Intel(R) Atom(TM) processor C3000 product family PCIe Root Port 7 - 19AB
IRQ 4294967288	Intel(R) Atom(TM) processor C3000 product family PCIe Root Port 6 - 19AA
IRQ 4294967289	Intel(R) Atom(TM) processor C3000 product family PCIe Root Port 5 - 19A9
IRQ 4294967290	Intel(R) Atom(TM) processor C3000 product family PCIe Root Port 4 - 19A8
IRQ 4294967291	Intel(R) Atom(TM) processor C3000 product family PCIe Root Port 3 - 19A7
IRQ 4294967292	Intel(R) Atom(TM) processor C3000 product family PCIe Root Port 2 - 19A6
IRQ 4294967293	Intel(R) Atom(TM) processor C3000 product family PCIe Root Port 0 - 19A4
IRQ 4294967294	PCI Express Root Port

5. FAQ

Q 1. Where can I find the serial number of this product?

- The serial number (S/N) is a label printed with alpha-numeric character. You can find the S/N label on the bottom of this product or on its packing box.

Technical Support Form

We deeply appreciate your purchase of Acrosser products. Please find the "**tech_form.doc**" file in our utility CD. If you have any questions or problems about Acrosser products, please fill in the following information. We will answer your questions in the shortest time possible.

Describe Your Info and Acrosser System Info

- Your Company Name: _____
- Your Contact Info: _____ Phone Number: _____
- Your E-Mail Address: _____
- Your Company Address: _____

  _____
- Acrosser Model Name: _____
- Acrosser Serial Number: _____

Describe System Configuration

- CPU Type: _____
- Memory Size: _____
- Storage Device (e.g. HDD, CF, or SSD): _____
- Additional Peripherals (e.g. Graphic Card): _____
- Operating System & Version (e.g. Windows 7 Embedded): _____
- Special API or Driver: _____

  (If yes, please provide it for debug.)
- Running Applications: _____
- Others: _____

Describe Your Problems or Questions:

Send the above information to one of the following Acrosser contacts:

- Acrosser Local Sales Representative
- Acrosser Authorized Sales Channels
- Acrosser Inquiry --- http://www.acrosser.com/inquiry.html
- Acrosser FAX Number --- 886-2-29992887

To Make Your
Embedded
Idea a Reality

Acrosser Headquarters

241402新北市三重區重新路5段609巷4號3樓之8
Rm. 8, 3F., No. 4, Ln. 609, Sec. 5, Chongxin Rd., Sanchong Dist., New Taipei City 241402, Taiwan
TEL: +886-2-29999000
FAX: +886-2-29992887

Acrosser Taichung Office

40858台中市南屯區保安八街28號3樓之1
3F.-1, No. 28, Bao'an 8th St., Nantun Dist., Taichung City 40858, Taiwan
TEL: +886-4-23370715
FAX: +886-4-23373422

Acrosser China Subsidiary

深圳市欣扬通电子有限公司
深圳市福田区泰然八路安华工业区4栋5层505室
(邮编: 518040)
Room 505, Floor 5, Building 4, Anhua Industrial Zone, Tairan 8th Road, Futian District, Shenzhen, China (Postal: 518040)
TEL: +86-755-83542210
FAX: +86-755-83700087

Acrosser USA Inc.

324 W. Blueridge Avenue, Orange CA 92865, USA
TEL: +1-714-728-6964