GENESYS-APL7

Compact Embedded System

User's Manual 1st Ed

Last Updated: February 10, 2025

Copyright Notice

Acknowledgement

Packing List

Before setting up your product, please make sure the following items have been shipped:

Item	Quantity
● GENESYS-APL7	1

If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

About this Document

This User's Manual contains all the essential information, such as detailed descriptions and explanations on the product's hardware and software features (if any), its specifications, dimensions, jumper/connector settings/definitions, and driver installation instructions (if any), to facilitate users in setting up their product.

Users may refer to the product page at AAEON.com for the latest version of this document.

Safety Precautions

Please read the following safety instructions carefully. It is advised that you keep this manual for future references

1. All cautions and warnings on the device should be noted.
2. Make sure the power source matches the power rating of the device.
3. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
4. Always completely disconnect the power before working on the system's hardware.
5. No connections should be made when the system is powered as a sudden rush of power may damage sensitive electronic components.
6. If the device is not to be used for a long time, disconnect it from the power supply to avoid damage by transient over-voltage.
7. Always disconnect this device from any AC supply before cleaning.
8. While cleaning, use a damp cloth instead of liquid or spray detergents.
9. Make sure the device is installed near a power outlet and is easily accessible.
10. Keep this device away from humidity.
11. Place the device on a solid surface during installation to prevent falls
12. Do not cover the openings on the device to ensure optimal heat dissipation.
13. Watch out for high temperatures when the system is running.
14. Do not touch the heat sink or heat spreader when the system is running
15. Never pour any liquid into the openings. This could cause fire or electric shock.
16. As most electronic components are sensitive to static electrical charge, be sure to ground yourself to prevent static charge when installing the internal components. Use a grounding wrist strap and contain all electronic components in any static-shielded containers.

17. If any of the following situations arises, please the contact our service personnel:
    i. Damaged power cord or plug
    ii. Liquid intrusion to the device
    iii. Exposure to moisture
    iv. Device is not working as expected or in a manner as described in this manual
    v. The device is dropped or damaged
    vi. Any obvious signs of damage displayed on the device
18. DO NOT LEAVE THIS DEVICE IN AN UNCONTROLLED ENVIRONMENT WITH TEMPERATURES BEYOND THE DEVICE'S PERMITTED STORAGE TEMPERATURES (SEE CHAPTER 1) TO PREVENT DAMAGE.

FCC Statement

This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

Caution:

There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions and your local government's recycling or disposal directives.

Attention:

Il y a un risque d'explosion si la batterie est remplacée de façon incorrecte.
Ne la remplacer qu'avec le même modèle ou équivalent recommandé par le constructeur.
Recycler les batteries usées en accord avec les instructions du fabricant et les directives gouvernementales de recyclage.

China RoHS Requirements (CN)

产品中有毒有害物质或元素名称及含量

AAEON System QO4-381 Rev.A2

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷电路板及其电子组件	×	○	○	○	○	○
外部信号连接器及线材	×	○	○	○	○	○
外壳	○	○	○	○	○	○
中央处理器与内存	×	○	○	○	○	○
硬盘	×	○	○	○	○	○
液晶模块	×	○	○	○	○	○
光驱	×	○	○	○	○	○
触控模块	×	○	○	○	○	○
电源	×	○	○	○	○	○
电池	×	○	○	○	○	○

本表格依据 SJ/T 11364 的规定编制。

○：表示该有毒有害物质在该部件所有均质材料中的含量均在 GB/T 26572 标准规定的限量要求以下。

×：表示该有害物质的某一均质材料超出了 GB/T 26572 的限量要求，然而该部件仍符合欧盟指令 2011/65/EU 的规范。

环保使用期限(EFUP (Environmental Friendly Use Period)) : 10 年

备注：

一、此产品所标示之环保使用期限，系指在一般正常使用状况下。

二、上述部件物质中央处理器、内存、硬盘、光驱、电源为选购品。

三、上述部件物质液晶模块、触控模块仅一体机产品适用。

China RoHS Requirement (EN)

Name and content of hazardous substances in product

AAEON System QO4-381 Rev.A2

Part Name	Hazardous Substances					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
PCB Assemblies	×	O	O	O	O	O
Connector and Cable	×	O	O	O	O	O
Chassis	O	O	O	O	O	O
CPU and Memory	×	O	O	O	O	O
Hard Disk	×	O	O	O	O	O
LCD Modules	×	O	O	O	O	O
CD-ROM/DVD-ROM	×	O	O	O	O	O
Touch Modules	×	O	O	O	O	O
Power	×	O	O	O	O	O
Battery	×	O	O	O	O	O

The table is prepared in accordance with the provisions of SJ/T 11364.

O：Indicates that said hazardous substance contained in all of the homogenous materials for this product is below the limit requirement of GB/T 26572.

×：Indicates that said hazardous substance contained in at least one of the homogenous materials used for this part is above the limit requirement of GB/T 26572. But this product still be compliance with 2011/65/EU Directive (allowed with 2011/65/EU Annex III of RoHS exemption with number 6(c),7(a),7(c)-1).

EFUP (Environment Friendly Use Period) value: 10 years.

Notes：

1. This product defined period of use is under normal condition.
2. In above part, CPU/Memory/ Hard Disk/CD-ROM/DVD-ROM/ Power are optional.
3. In above part, LCD Modules/ Touch Modules are for all-in-one product model.

Table of Contents

Chapter 1

Product Specifications

1.1 Specifications

System	
Form Factor	3.5'' Subcompact Board
CPU	Intel Pentium N4200 Processor SoC Intel Celeron N3350 Processor SoC
CPU Frequency	Up to 2.5 GHz
Chipset	Intel Pentium N4200 Processor SoC Intel Celeron N3350 Processor SoC
Memory Type	DDR3L 1866MHz, SODIMM x 1
Max. Memory Capacity	Up to 8GB
BIOS	AMI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	12V Only
Power Supply Type	ATX
Power Consumption (Typical)	Pentium N4200 with 8GB DDR3L 1600MHz,1.61A at +12V
Dimension (L x W x H)	178mm x 134.1mm x 50mm
Operating Temperature	32°F ~ 122°F (0°C ~ 50°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	126,000

System

Certification	CE/FCC

Display

VGA/LCD Controller	Intel Pentium N4200 Processor SoC
	Intel Celeron N3350 Processor SoC
Video Output	VGA

I/O

Ethernet	Realtek RTL-8111E, RJ-45 x 2
Audio	—
USB Port	Rear I/O: USB 3.2 Gen 1 x 2
	Internal: USB 2.0 x 2
Serial Port	Rear I/O: COM x 1 (RS-232)
	Internal: COM x 6 (RS-232)
Parallel Port	—
HDD Interface	SATA III (6 Gb/s) x 1
FDD Interface	—
SSD	mSATA x 1 (Full-Sized, optional for Mini-Card)
Expansion Slot	Mini-card x 1 (Full size)
DIO	—
SIM	—
TPM	—

I/O

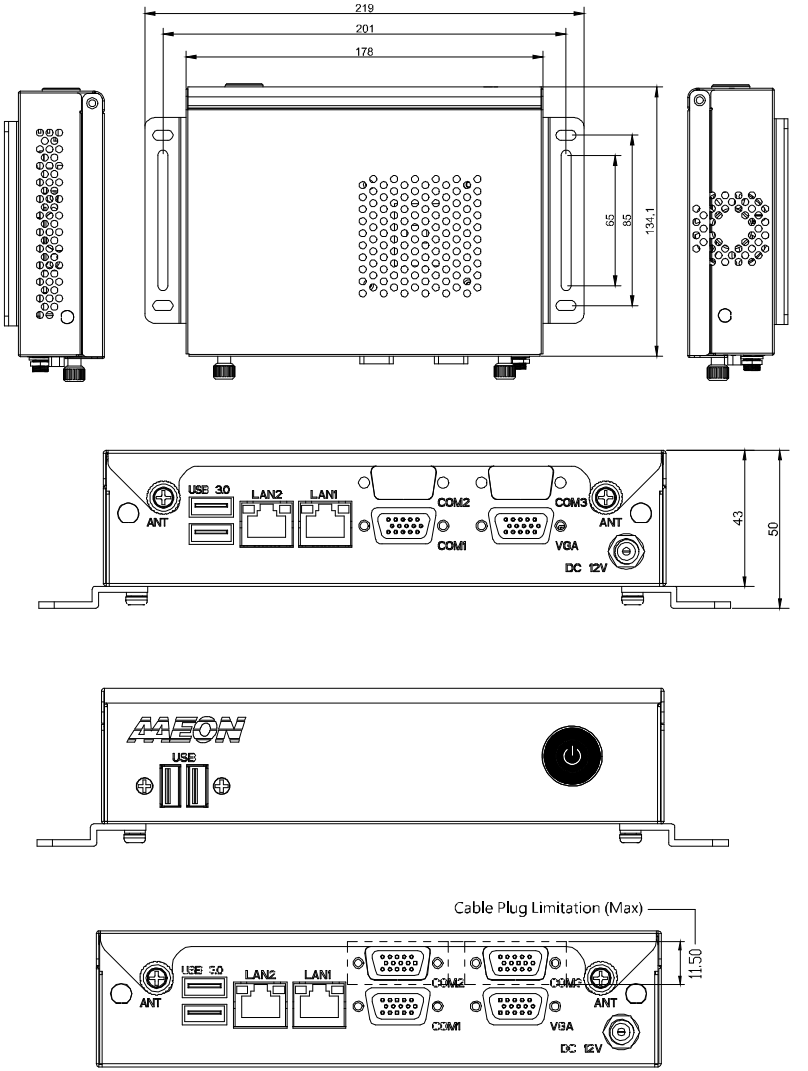
Touch	—

Chapter 2

Hardware Information

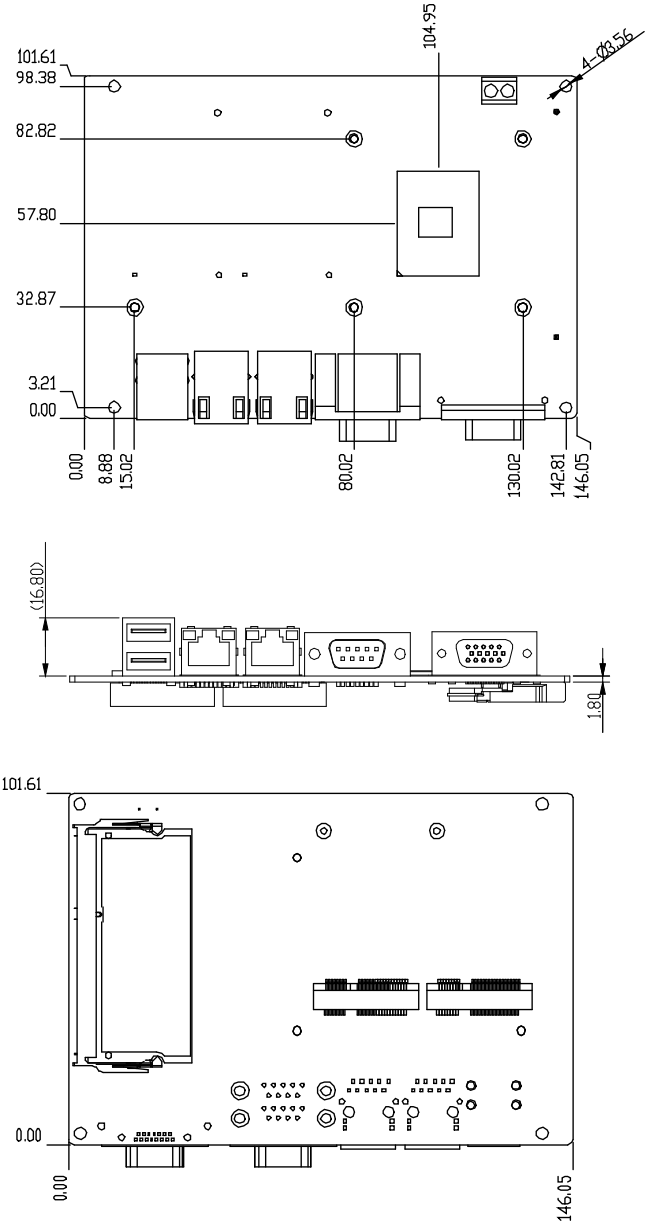
2.1 Dimensions

System

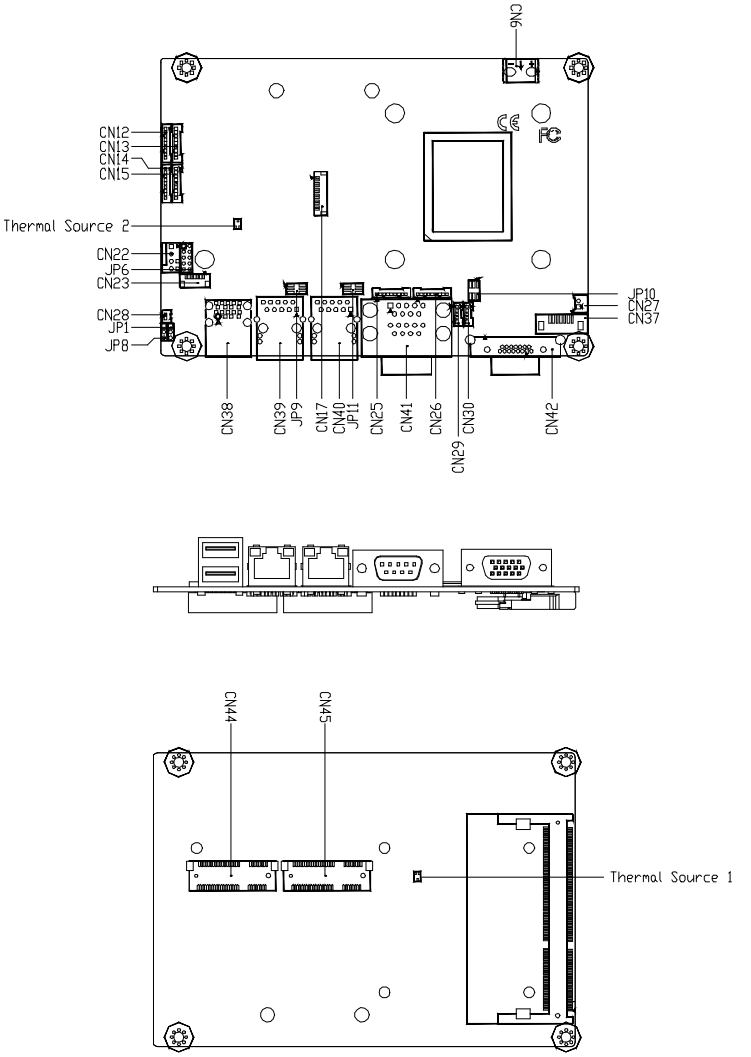


Note: Maximum COM Port plug height is 11.50mm.

Board


104.95
4-Ø3.56
101.61
98.38
82.82
57.80
32.87
3.21
0.00
0.00
8.88
15.02
80.02
130.02
142.81
146.05
(16.80)
1.80
101.61
0.00
0.00
146.05

2.2 Jumpers and Connectors

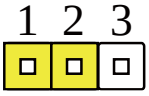


2.3 List of Jumpers

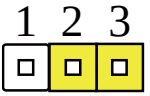
Please refer to the table below for all of the board's jumpers that you can configure for your application

Label	Function
JP1	Clear CMOS Jumper
JP6	Front Panel Connector
JP8	Auto Power Button Enable/Disable Selection
JP9	COM 2 Pin8 Function Selection
JP10	COM 1 Pin8 Function Selection
JP11	COM 3 Pin8 Function Selection

2.3.1 Clear CMOS Jumper (JP1)

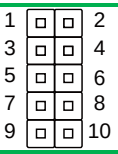


Normal (1-2) (Default)



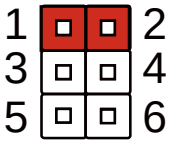
Clear CMOS (2-3)

2.3.2 Front Panel Connector (JP6)

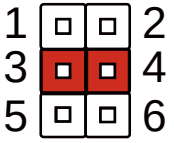


Pin	Pin Name	Pin	Pin Name
1	PWR_BTN-	2	PWR_BTN+
3	HDD_LED-	4	HDD_LED+
5	SPEAKER-	6	SPEAKER+
7	PWR_LED-	8	PWR_LED+
9	H/W RESET-	10	H/W RESET+

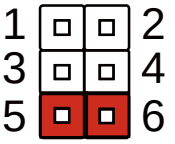
2.3.3 COM Function Selection (JP9, JP10, JP11)



+12V (1-2)

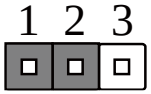


Ring (3-4) (Default)

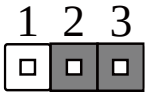


+5V (5-6)

2.3.4 Auto Power Button Enable/Disable Selection (JP8)



ATX Mode (1-2) (Default)



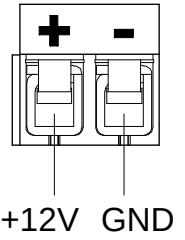
AT Mode (2-3)

2.4 List of Connectors

Please refer to the table below for all of the board's connectors.

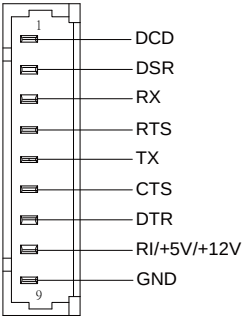
Label	Function
CN6	External +12V Input
CN12	COM Port 9
CN13	COM Port 10
CN14	COM Port 12
CN15	COM Port 11
CN17	LPC and I2C Port
CN22	CPU FAN (Optional)
CN23	SPI Debug Port
CN25	COM 2
CN26	COM 3
CN27	+5V Output for SATA HDD
CN28	RTC Battery
CN29	USB 2.0 Port 5
CN30	USB 2.0 Port 4
CN37	SATA III (6 Gb/s) Port
CN38	USB 3.0 Ports 0 and 1
CN39	LAN (RJ-45) Port2
CN40	LAN (RJ-45) Port1
CN41	COM 1
CN42	VGA Port
CN44	mSATA (Default) and Mini-Card Slot (Full-Sized)
CN45	Mini-Card Slot (Full-Sized)
DIMM1	DDR3L SO-DIMM Slot

2.4.1 External +12V Input (CN6)



Pin	Pin Name	Signal Type	Signal Level
1	+12V	PWR	+12V
2	GND	GND	

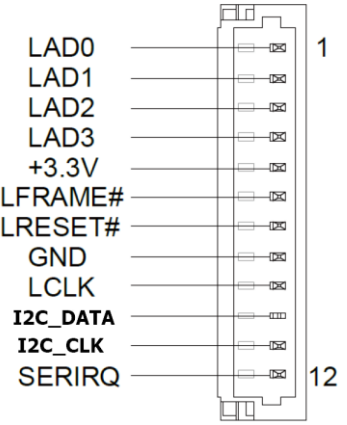
2.4.2 COM Port (CN12, CN13, CN14, CN15, CN25, CN26)



RS-232			
Pin	Pin Name	Signal Type	Signal Level
1	DCD	IN	
2	DSR	IN	
3	RX	IN	
4	RTS	OUT	±9V
5	TX	OUT	±9V
6	CTS	IN	

RS-232			
Pin	Pin Name	Signal Type	Signal Level
7	DTR	OUT	±9V
8	RI/+5V/+12V	IN/ PWR	+5V/+12V
9	GND	GND	

2.4.3 LPC and I2C Port (CN17)



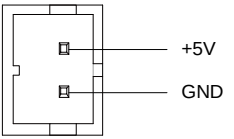
Pin	Pin Name	Signal Type	Signal Level
1	LAD0	I/O	+3.3V
2	LAD1	I/O	+3.3V
3	LAD2	I/O	+3.3V
4	LAD3	I/O	+3.3V
5	+3.3V	PWR	+3.3V
6	LFRAME#	IN	
7	LRESET#	OUT	+3.3V
8	GND	GND	
9	LCLK	OUT	

Pin	Pin Name	Signal Type	Signal Level
10	I2C DATA	I/O	
11	I2C CLK	I/O	
12	SERIRQ	I/O	+3.3V

2.4.4 CPU FAN (Optional) (CN22)

Pin	Pin Name	Signal Type	Signal Level
1	GND	GND	
2	FAN_POWER	PWR	+12V
3	FAN_TAC	IN	

2.4.5 +5V Output for SATA HDD (CN27)



Pin	Pin Name	Signal Type	Signal Level
1	+5V	PWR	+5V
2	GND	GND	

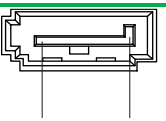
2.4.6 RTC Battery (CN28)

Pin	Pin Name	Signal Type	Signal Level
1	+3.3V	PWR	3.3V
2	GND	GND	

2.4.7 USB 2.0 Port (CN29, CN30)

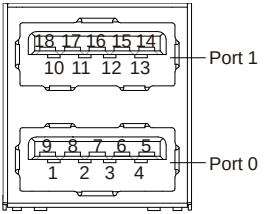
Pin	Pin Name	Signal Type	Signal Level
1	+5VSB	PWR	+5V
2	USB_D-	DIFF	
3	USB_D+	DIFF	
4	GND	GND	
5	GND	GND	

2.4.8 SATA III Port (CN37)



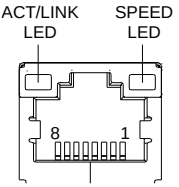
Pin	Pin Name	Signal Type	Signal Level
1	GND	GND	
2	SATA_TX+	DIFF	
3	SATA_TX-	DIFF	
4	GND	GND	
5	SATA_RX-	DIFF	
6	SATA_RX+	DIFF	
7	GND	GND	

2.4.9 USB Ports 0 and 1 (CN38)



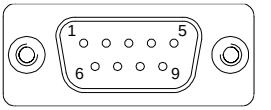
Pin	Pin Name	Signal Type	Signal Level
1	+5VSB	PWR	+5V
2	USB0_D-	DIFF	
3	USB0_D+	DIFF	
4	GND	GND	
5	USB0_SSRX−	DIFF	
6	USB0_SSRX+	DIFF	
7	GND	GND	
8	USB0_SSTX−	DIFF	
9	USB0_SSTX+	DIFF	
10	+5VSB	PWR	+5V
11	USB1_D-	DIFF	
12	USB1_D+	DIFF	
13	GND	GND	
14	USB1_SSRX−		
15	USB1_SSRX+		
16	GND	GND	
17	USB1_SSTX−		
18	USB1_SSTX+		

2.4.10 LAN (RJ-45) (CN39, CN40)



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

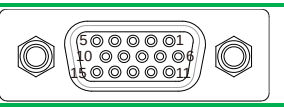
2.4.11 COM 1 (CN41)



RS-232			
Pin	Pin Name	Signal Type	Signal Level
1	DCD	IN	
2	RX	IN	
3	TX	OUT	±9V
4	DTR	OUT	±9V
5	GND	GND	
6	DSR	IN	

RS-232			
Pin	Pin Name	Signal Type	Signal Level
7	RTS	OUT	±9V
8	CTS	IN	
9	RI/+5V/+12V	IN/ PWR	RI/+5V/+12V

2.4.12 VGA Port (CN42)



Pin	Pin Name	Signal Type	Signal Level
1	RED	OUT	Analog
2	GREEN	OUT	Analog
3	BLUE	OUT	Analog
4	NC		
5	GND	GND	
6	RED_GND_RTN	GND	
7	GREEN_GND_RTN	GND	
8	BLUE_GND_RTN	GND	
9	+5V	PWR	+5V
10	CRT_PLUG#		
11	NC		
12	DDC_DATA	I/O	+5V
13	HSYNC	OUT	
14	VSYNC	OUT	
15	DDC_CLK	I/O	+5V

2.4.13 mSATA and Mini-Card Slot (Full-Sized) (CN44)

Note: Default setting for CN44 is mSATA.

Pin	Pin Name	Signal Type	Signal Level
1	PCIE_WAKE#	IN	
2	+3.3VSB	PWR	+3.3V
3	NC		
4	GND	GND	
5	NC		
6	+1.5V	PWR	+1.5V
7	PCIE_CLK_REQ#	IN	
8	NC	PWR	
9	GND	GND	
10	NC	I/O	
11	PCIE_REF_CLK-	DIFF	
12	NC	IN	
13	PCIE_REF_CLK+	DIFF	
14	NC		
15	GND	GND	
16	NC	PWR	
17	NC		
18	GND	GND	
19	NC		
20	W_DISABLE#	OUT	+3.3V
21	GND	GND	
22	PCIE_RST#	OUT	+3.3V
23	SATA_RX-	DIFF	

Pin	Pin Name	Signal Type	Signal Level
24	+3.3VSB	PWR	+3.3V
25	SATA_RX+	DIFF	
26	GND	GND	
27	GND	GND	
28	+1.5V	PWR	+1.5V
29	GND	GND	
30	SMB_CLK	I/O	+3.3V
31	SATA_TX-	DIFF	
32	SMB_DATA	I/O	+3.3V
33	SATA_TX+	DIFF	
34	GND	GND	
35	GND	GND	
36	USB_D-	DIFF	
37	GND	GND	
38	USB_D+	DIFF	
39	+3.3VSB	PWR	+3.3V
40	GND	GND	
41	+3.3VSB	PWR	+3.3V
42	NC		
43	GND	GND	
44	NC		
45	NC		
46	NC		
47	NC		
48	+1.5V	PWR	+1.5V
49	NC		

Pin	Pin Name	Signal Type	Signal Level
50	GND	GND	
51	NC		
52	+3.3VSB	PWR	+3.3V

2.4.14 Mini-Card Slot (Full-Sized) (CN45)

Pin	Pin Name	Signal Type	Signal Level
1	PCIE_WAKE#	IN	
2	+3.3VSB	PWR	+3.3V
3	NC		
4	GND	GND	
5	NC		
6	+1.5V	PWR	+1.5V
7	PCIE_CLK_REQ#	IN	
8	NC	PWR	
9	GND	GND	
10	NC	I/O	
11	PCIE_REF_CLK-	DIFF	
12	NC	IN	
13	PCIE_REF_CLK+	DIFF	
14	NC		
15	GND	GND	
16	NC	PWR	
17	NC		
18	GND	GND	
19	NC		

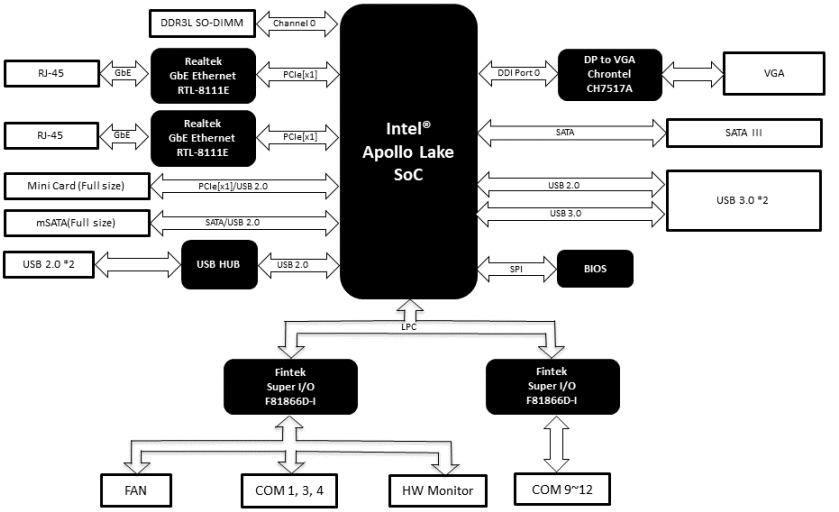
Pin	Pin Name	Signal Type	Signal Level
20	W_DISABLE#	OUT	+3.3V
21	GND	GND	
22	PCIE_RST#	OUT	+3.3V
23	PCIE_RX-	DIFF	
24	+3.3VSB	PWR	+3.3V
25	PCIE_RX+	DIFF	
26	GND	GND	
27	GND	GND	
28	+1.5V	PWR	+1.5V
29	GND	GND	
30	SMB_CLK	I/O	+3.3V
31	PCIE_TX-	DIFF	
32	SMB_DATA	I/O	+3.3V
33	PCIE_TX+	DIFF	
34	GND	GND	
35	GND	GND	
36	USB_D-	DIFF	
37	GND	GND	
38	USB_D+	DIFF	
39	+3.3VSB	PWR	+3.3V
40	GND	GND	
41	+3.3VSB	PWR	+3.3V
42	NC		
43	GND	GND	
44	NC		
45	NC		

Pin	Pin Name	Signal Type	Signal Level
46	NC		
47	NC		
48	+1.5V	PWR	+1.5V
49	NC		
50	GND	GND	
51	NC		
52	+3.3VSB	PWR	+3.3V

2.4.15 DDR3L SO-DIMM Slot (DIMM1)

Standard Specification

2.5 Block Diagram



2.6 Hardware Assembly Guide

This section details the steps to installing your device's drive (2.5" HDD or SSD), RAM module, and Mini-Card modules (Half-Sized and Full-Sized mPCIe/mSATA cards). Be sure to read instructions before assembly and ensure that you have the required parts before proceeding. If you need any support or assistance, please contact your AAEON representative, or visit the support page at AAEON.com to contact our team.

Before You Start

Before starting the assembly steps in this section, ensure the system is powered off (not in sleep or standby mode) and the power cable/adapter is disconnected from the system. Failure to do so can result in damage to the system and/or personal injury.

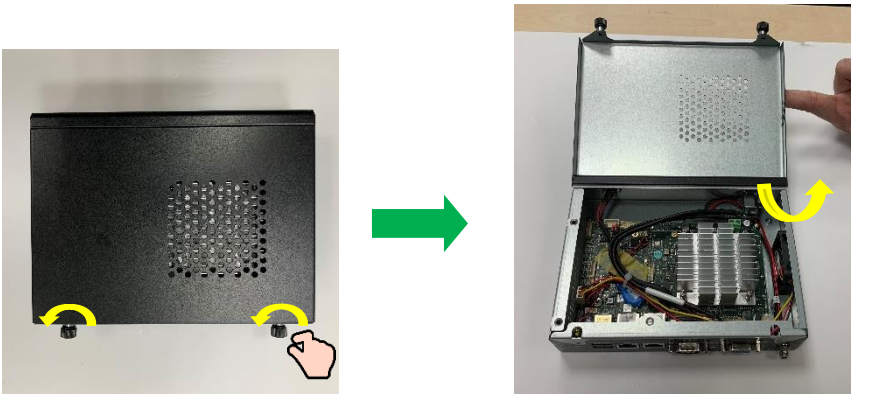
Parts List

Make sure you have the following parts before starting:

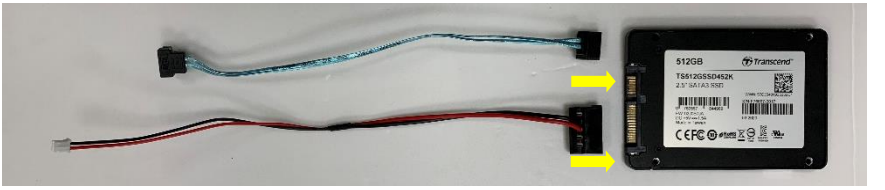
Item	Part Number	Quantity
GENESYS-APL7 System	968MY00013	1
SATA Cable	170X000058	1
SATA Power Cable	170X000056	1
HDD Screws	S1D3004031	3
Zip ties	1992666607	3
SODIMM RAM Module DDR3 1866 up to 8GB		1
mPCIe/mSATA Mini-Card (Full-Size)		2
2.5" Hard Disk Drive (HDD) or Solid-State Drive (SSD) storage device		1

2.6.1 Installing 2.5" Storage Drive

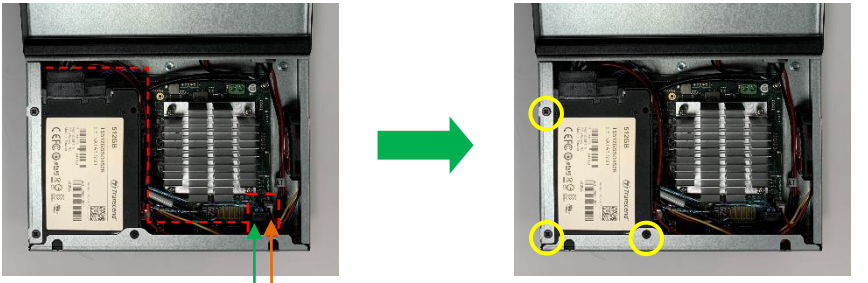
Step 1: Loosen the spring-mounted thumb screws at the rear of the system. This can be done by hand or with a screw driver. The top panel/lid will swing open towards the front.



Step 2: Connect the SATA and SATA Power cables to the storage drive.



Step 3: Connect the SATA cable to board connector CN37 and SATA Power to board CN27 (see Chapter 2.3 for reference.) Route the cables around the heatsink as shown, then secure the drive to the frame with three screws.



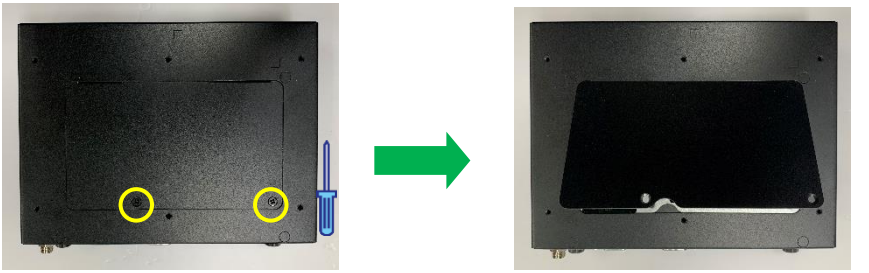
SATA Port (CN37)

SATA Power (CN27)

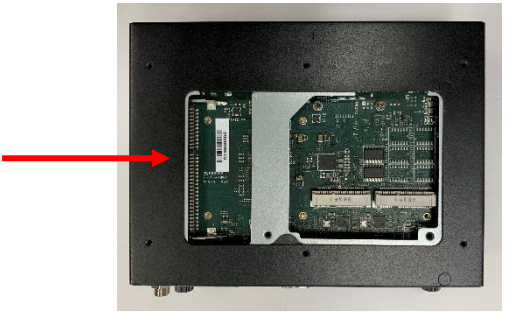
Step 4: Close the lid and secure by tightening the thumb screws. Be sure to push in gently while turning, and tighten by hand until snug.

2.6.2 RAM Module Installation

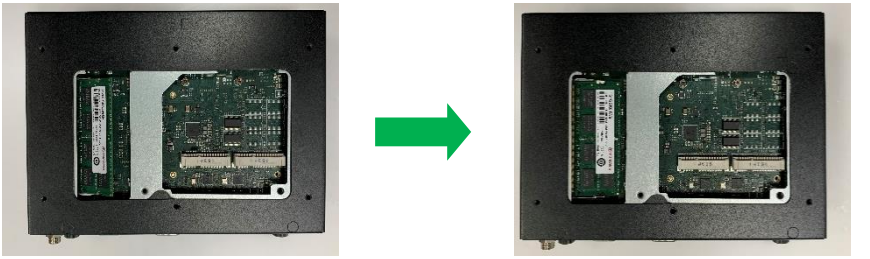
Step 1: To access the RAM slot, flip system over to bottom. Remove the two screws holding the bottom panel in place. Bottom panel will swing up and can be removed.



Step 2: Locate the RAM module slot.



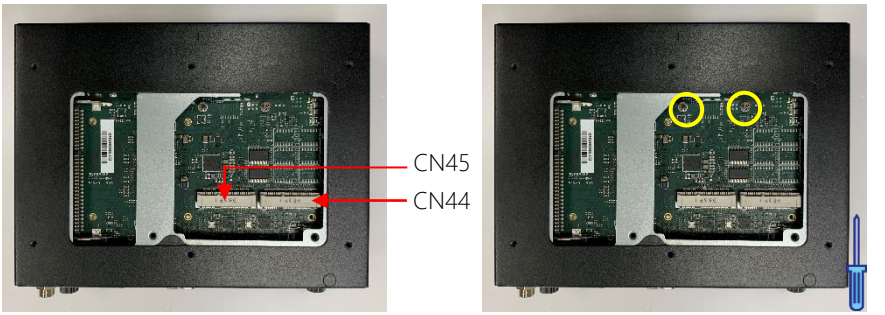
Step 3: Insert the RAM module into the slot at an angle (approx. 30°). Then gently press down until secure (you will hear a click).



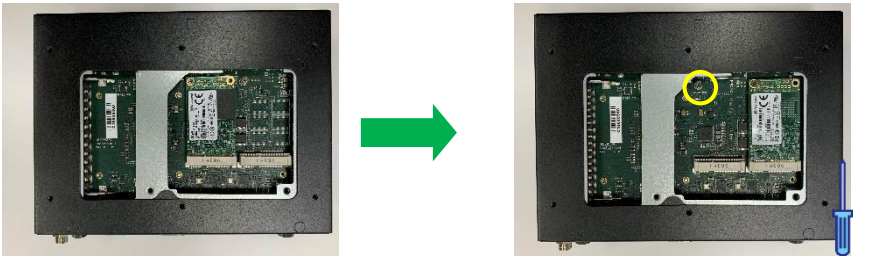
Step 4: Replace bottom panel if you are not installing Mini-Card modules.

2.6.3 Mini-Card Installation

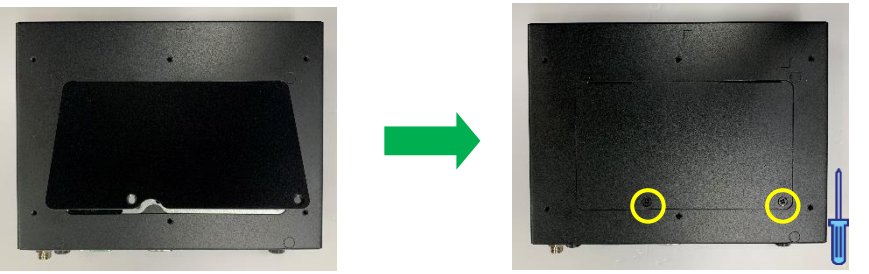
Step 1: Locate the mPCIe/mSATA slots. Remove both mounting screws from board.



Step 2: Insert the mPCIe/mSATA Mini-Card into CN45 at an angle (approx. 30°). Press down gently and secure with a mounting screw. Repeat for inserting the next mPCIe/mSATA Mini-Card into CN44.



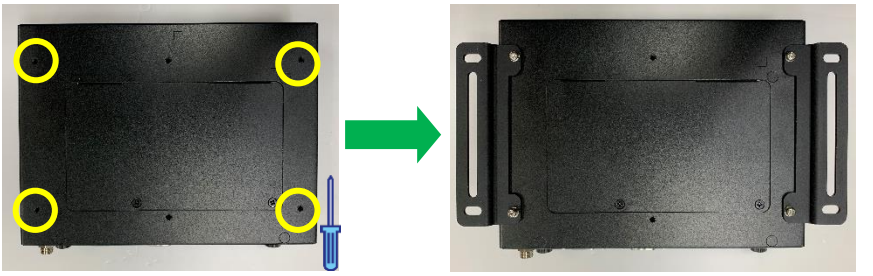
Step 4: Replace bottom panel by inserting at an angle and then swinging shut. Secure bottom panel with two screws.



2.6.4 Wall Mount Brackets

For this task, you need two wall mount brackets and four steel screws included in the wall mount kit.

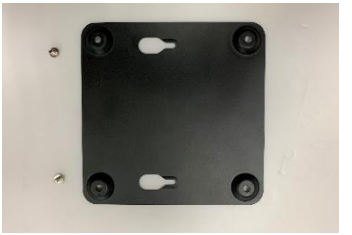
Line up the brackets with the four open holes on the bottom panel of the system as shown, then secure brackets with the four screws.



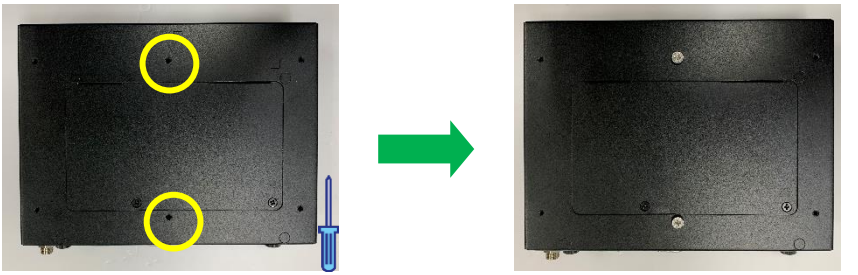
The system is now ready to be mounted to a wall or surface.

2.6.5 VESA Mounting Kit

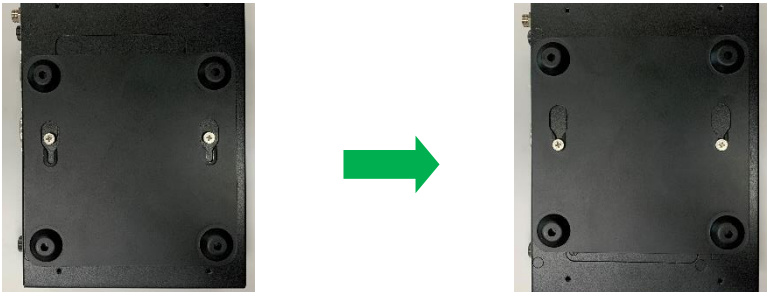
For this task, you need the VESA bracket and two steel screws included in the VESA mount kit.



Insert screws into the two empty holes on the bottom panel of the system as shown.



The system can now be attached to the VESA bracket. Mount the system with side panels facing vertically, and the wide openings of the VESA mount pointed upwards.



Note: This image is for illustrative purposes. It is recommended that the VESA bracket be mounted to a surface before attaching the system.

Chapter 3

AMI BIOS Setup

3.1 System Test and Initialization

The system uses certain routines to perform testing and initialization during the boot up sequence. If an error, fatal or non-fatal, is encountered, the system will output a few short beeps or display an error message. The system can usually continue the boot up sequence with non-fatal errors.

The system configuration verification routines check the current system configuration against the values stored in the CMOS memory and BIOS NVRAM. If a system configuration is not found or an error is detected, the default configuration will be loaded and the system will reboot automatically.

There are four situations in which you will need to setup system configuration:

1. Starting the system for the first time
2. Hardware configuration has been changed
3. System configuration was reset by the Clear-CMOS jumper
4. The CMOS memory has lost power and the configuration information has been erased

The system CMOS memory has an integral lithium battery backup for data retention. The battery must be replaced when it runs down.

3.2 AMI BIOS Setup

The AMI BIOS ROM has a pre-installed Setup program that allows users to modify basic system configurations, which is stored in the battery-backed CMOS RAM and BIOS NVRAM so that the information is retained when the power is turned off.

To enter BIOS Setup, power on the system and press <Del> or <ESC> immediately.

The following menus are available from the interface:

Main – Date and time can be set here. Press <Tab> to switch between date elements

Advanced – Enable/ Disable boot option for legacy network devices

Chipset – Host bridge parameters

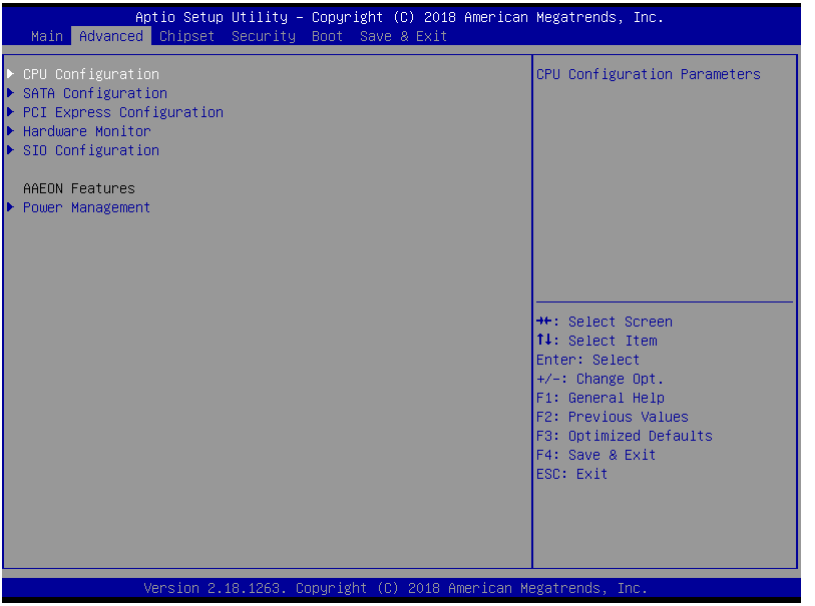
Boot – Enable/ Disable Quiet Boot option

Security – Configure setup administrator password

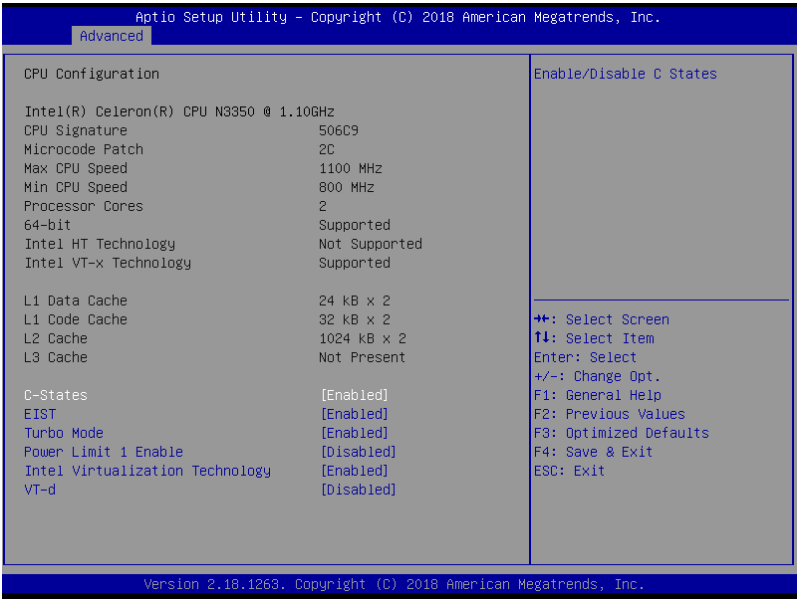
Save & Exit –Save changes and exit the program

3.3 Setup Submenu: Main

3.4 Setup Submenu: Advanced



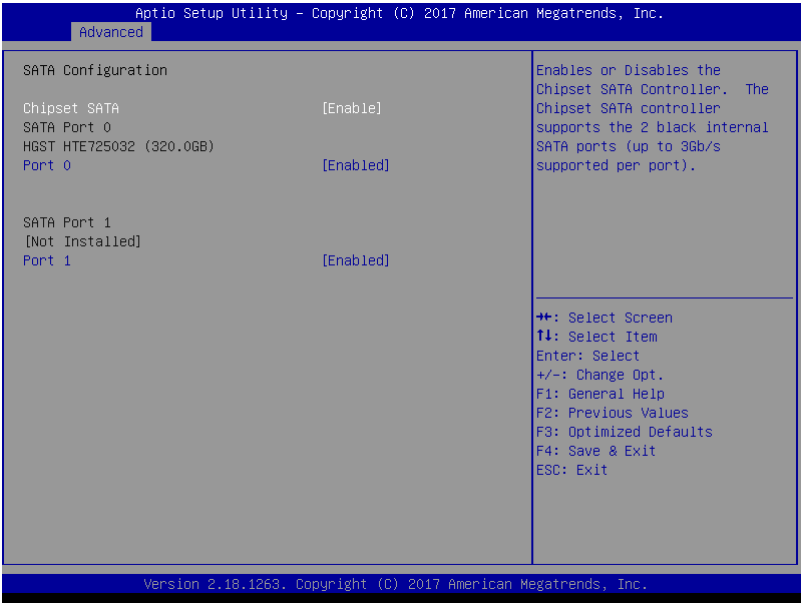
3.4.1 CPU Configuration



Options Summary		
C-States	Disabled	
	Enabled	Optimal Default, Failsafe Default
Enable/Disable C States.		
EIST	Disabled	
	Enabled	Optimal Default, Failsafe Default
Enable/Disable Intel SpeedStep.		
Turbo Mode	Disabled	
	Enabled	Optimal Default, Failsafe Default
Turbo Mode		
Power Limit 1 Enable	Disabled	Optimal Default, Failsafe Default
	Enabled	
Enable/Disable Power Limit 1		
Intel Virtualization Technology	Disabled	
	Enabled	Optimal Default, Failsafe Default
When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.		

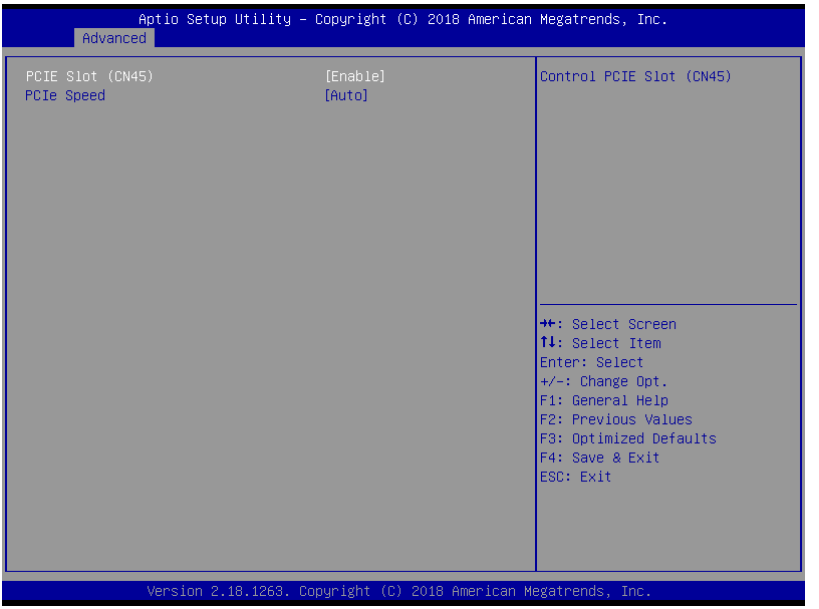
Options Summary		
VT-d	Disabled	Optimal Default, Failsafe Default
	Enabled	
Enable/Disable CP VT-d		

3.4.2 SATA Configuration



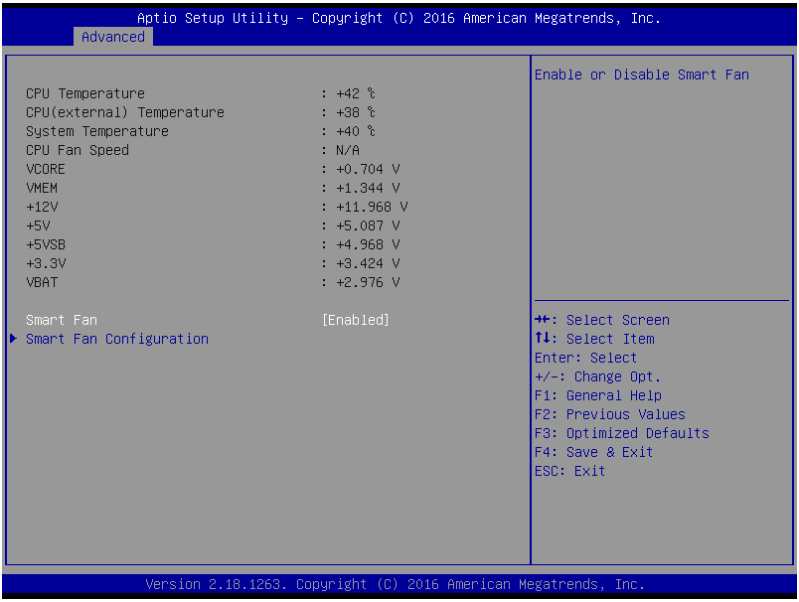
Options Summary		
Chipset SATA	Disabled	
	Enabled	Optimal Default, Failsafe Default
Enables or Disables the Chipset SATA Controller. The Chipset SATA controller supports the two black internal SATA ports (up to 3Gb/s supported per port).		
Port 0	Disabled	
	Enabled	Optimal Default, Failsafe Default
Enable or Disable SATA Port		
Port 1	Disabled	
	Enabled	Optimal Default, Failsafe Default
Enable or Disable SATA Port		

3.4.3 PCI Express Configuration



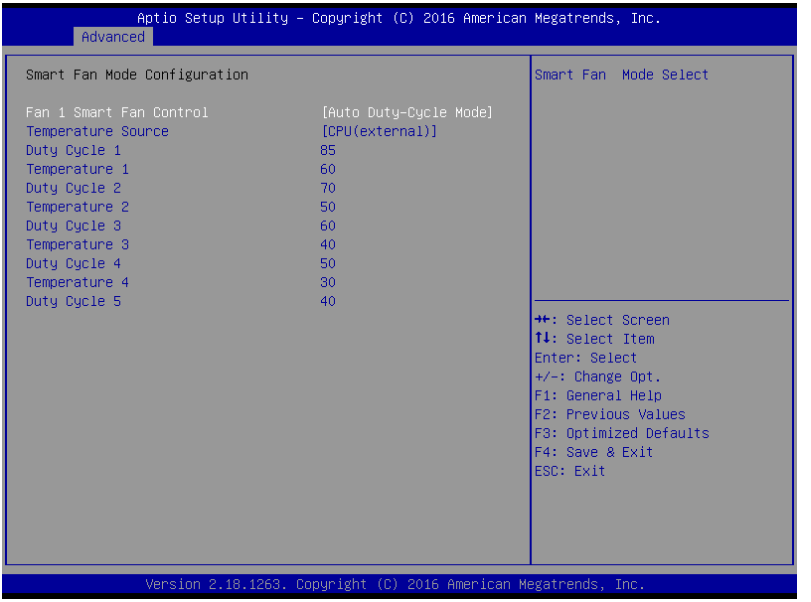
Options Summary		
PCIE Slot (CN45)	Disabled	
	Enabled	Optimal Default, Failsafe Default
Control PCIE Slot (CN45)		
PCIe Speed	Auto	Optimal Default, Failsafe Default
	Gen1	
	Gen2	
Configure PCIe Speed (CN45)		

3.4.4 Hardware Monitor



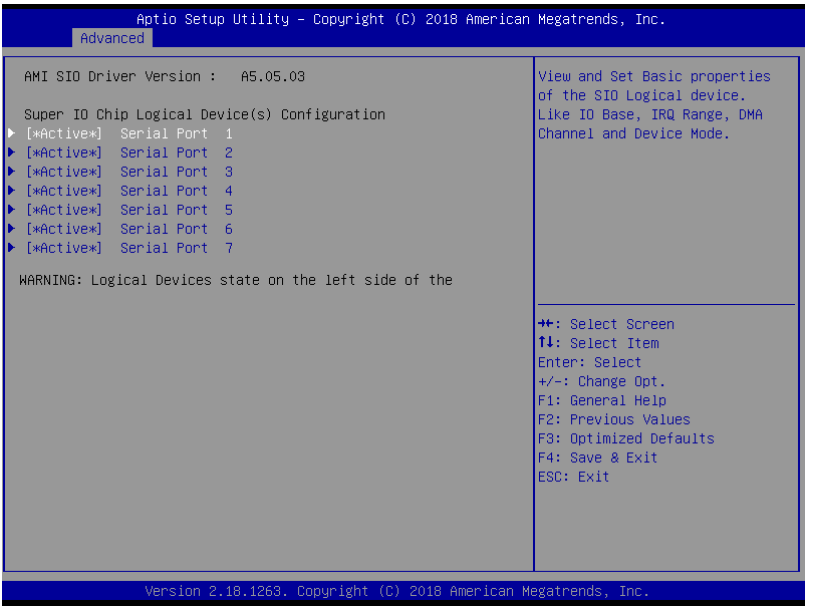
Options Summary		
Smart Fan	Disable	
	Enable	Optimal Default, Failsafe Default
Enables or Disables Smart Fan.		

3.4.4.1 CPU Smart Fan Mode Configuration

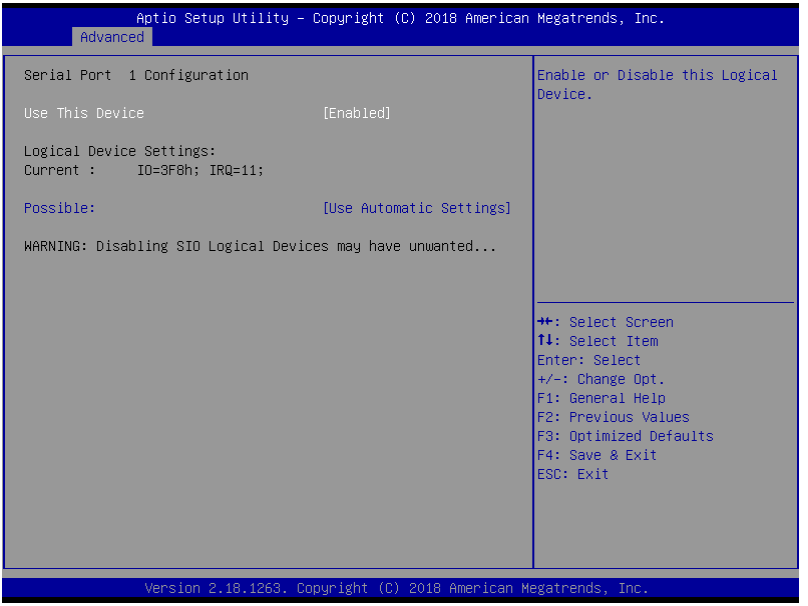


Options Summary		
Fan 1 Smart Fan Control	Manual Duty Mode	
	Auto Duty-Cycle Mode	Optimal Default, Failsafe Default
Smart Fan Mode Select		
Temperature Source	CPU (external)	Optimal Default, Failsafe Default
	System	
Select the monitored temperature source for this fan.		
Duty Cycle 1	85	
Temperature 1	60	
Auto fan speed control. Fan speed will follow different temperature by different duty cycle 1-100		

3.4.5 SIO Configuration

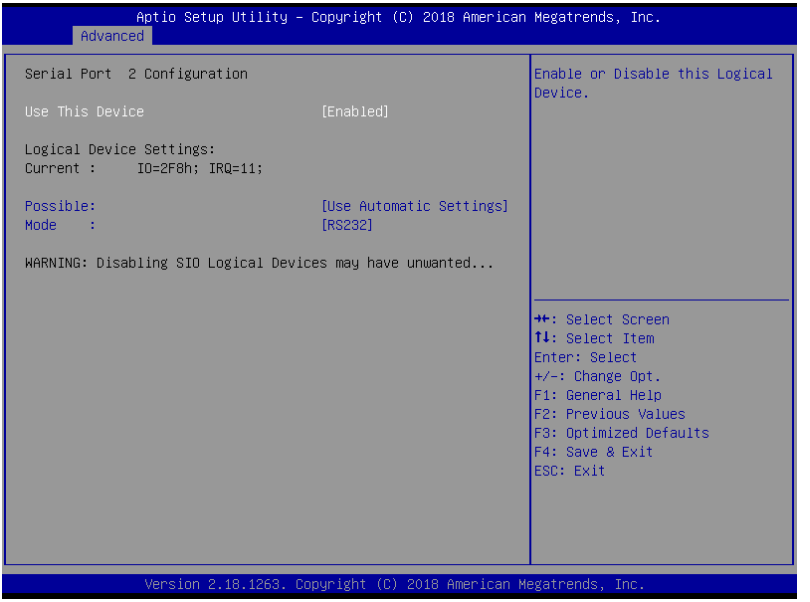


3.4.5.1 Serial Port 1 Configuration



Options Summary		
Use This Device	Disable	
	Enable	Optimal Default, Failsafe Default
Enable or Disable this Logical Device.		
Possible:	Use Automatic Settings	Optimal Default, Failsafe Default
	IO=3E8h; IRQ=11	
	IO=2E8h; IRQ=11	
Allows user to change Device's Resource settings. New settings will be reflected on This Setup Page after System restarts.		

3.4.5.2 Serial Port 2 Configuration



Options Summary		
Use This Device	Disable	
	Enable	Optimal Default, Failsafe Default
Enable or Disable this Logical Device.		
Possible:	Use Automatic Settings	Optimal Default, Failsafe Default
	IO=3F8h; IRQ=11	
	IO=2F8h; IRQ=11	
Allows user to change Device's Resource settings. New settings will be reflected on This Setup Page after System restarts.		

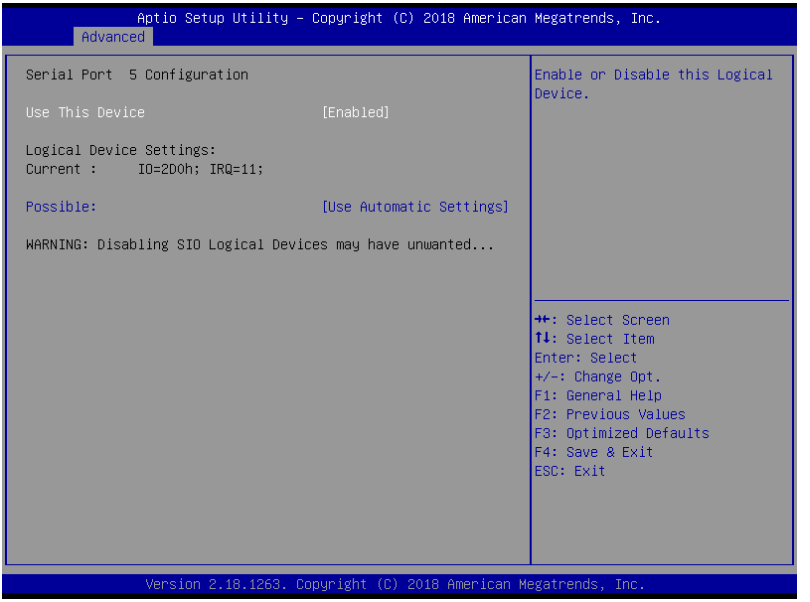
3.4.5.3 Serial Port 3 Configuration

Options Summary		
Use This Device	Disable	
	Enable	Optimal Default, Failsafe Default
Enable or Disable this Logical Device.		
Possible:	Use Automatic Settings	Optimal Default, Failsafe Default
	IO=2E8h; IRQ=11	
	IO=3E8h; IRQ=11	
Allows user to change Device's Resource settings. New settings will be reflected on This Setup Page after System restarts.		

3.4.5.4 Serial Port 4 Configuration

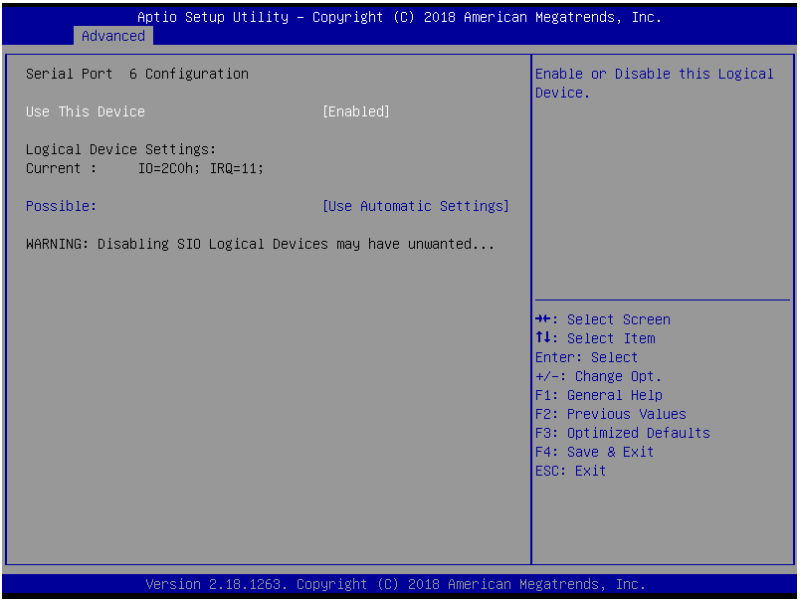
Options Summary		
Use This Device	Disable	
	Enable	Optimal Default, Failsafe Default
Enable or Disable this Logical Device.		
Possible:	Use Automatic Settings	Optimal Default, Failsafe Default
	IO=2B0h; IRQ=10	
	IO=3B8h; IRQ=10	
Allows user to change Device's Resource settings. New settings will be reflected on This Setup Page after System restarts.		

3.4.5.5 Serial Port 5 Configuration



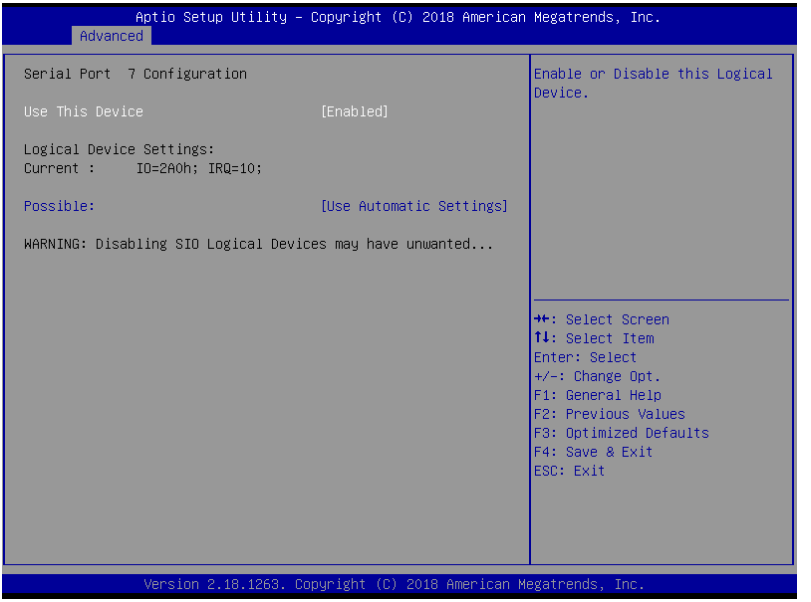
Options Summary		
Use This Device	Disable	
	Enable	Optimal Default, Failsafe Default
Enable or Disable this Logical Device.		
Possible:	Use Automatic Settings	Optimal Default, Failsafe Default
	IO=2B8h; IRQ=10	
	IO=2B0h; IRQ=10	
Allows user to change Device's Resource settings. New settings will be reflected on This Setup Page after System restarts.		

3.4.5.6 Serial Port 6 Configuration



Options Summary		
Use This Device	Disable	
	Enable	Optimal Default, Failsafe Default
Enable or Disable this Logical Device.		
Possible:	Use Automatic Settings	Optimal Default, Failsafe Default
	IO=280h; IRQ=10	
	IO=288h; IRQ=10	
Allows user to change Device's Resource settings. New settings will be reflected on This Setup Page after System restarts.		

3.4.5.7 Serial Port 7 Configuration

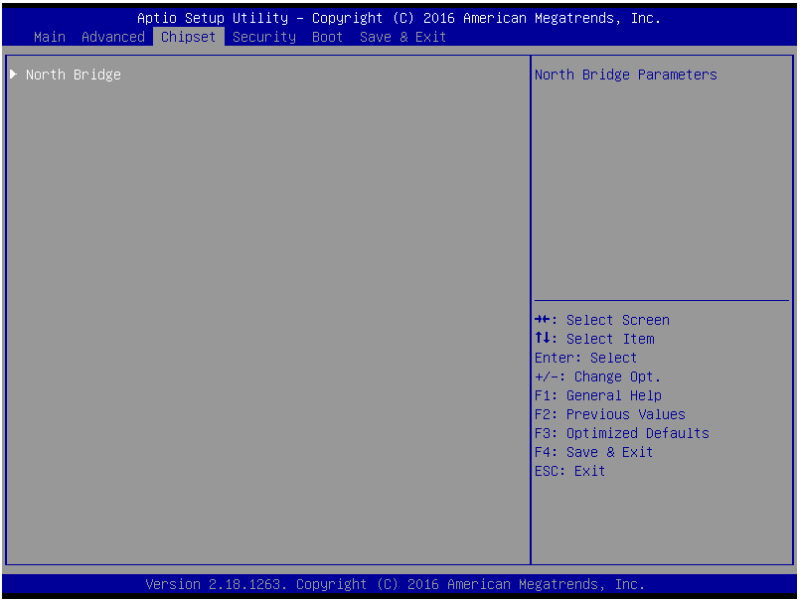


Options Summary		
Use This Device	Disable	
	Enable	Optimal Default, Failsafe Default
Enable or Disable this Logical Device.		
Possible:	Use Automatic Settings	Optimal Default, Failsafe Default
	IO=288h; IRQ=10	
	IO=280h; IRQ=10	
Allows user to change Device's Resource settings. New settings will be reflected on This Setup Page after System restarts.		

3.4.6 Power Management

Options Summary		
Power Mode	ATX Type	Optimal Default, Failsafe Default
	AT Type	
Select system power mode		
Restore AC Power Loss	Last State	Optimal Default, Failsafe Default
	Always On	
	Always Off	
RTC wake system from S5	Disable	Optimal Default, Failsafe Default
	Fixed Time	
Fixed Time: System will wake on the hr::min::sec specified.		

3.5 Setup Submenu: Chipset



3.6 Setup Submenu: Security

Change User/Administrator Password

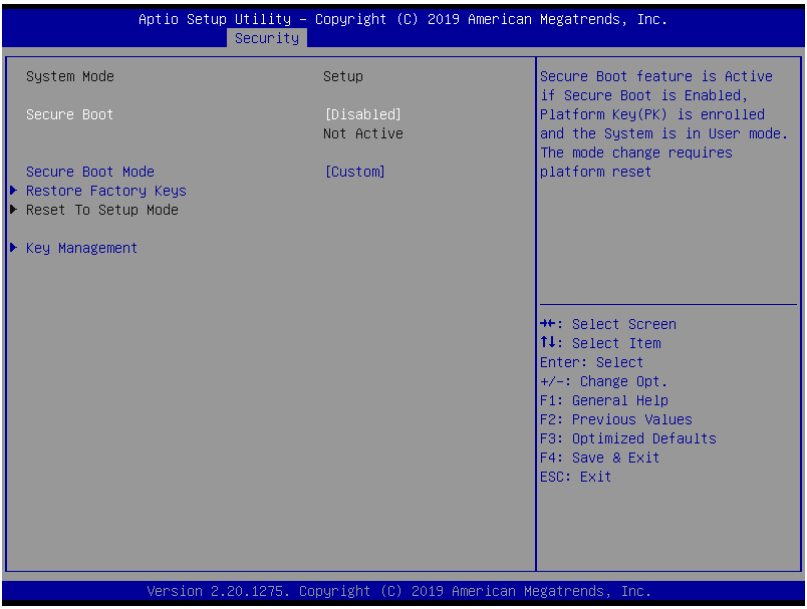
You can set an Administrator Password or User Password. An Administrator Password must be set before you can set a User Password. The password will be required during boot up, or when the user enters the Setup utility. A User Password does not provide access to many of the features in the Setup utility.

Select the password you wish to set, and press Enter. In the dialog box, enter your password (must be between 3 and 20 letters or numbers). Press Enter and retype your password to confirm. Press Enter again to set the password.

Removing the Password

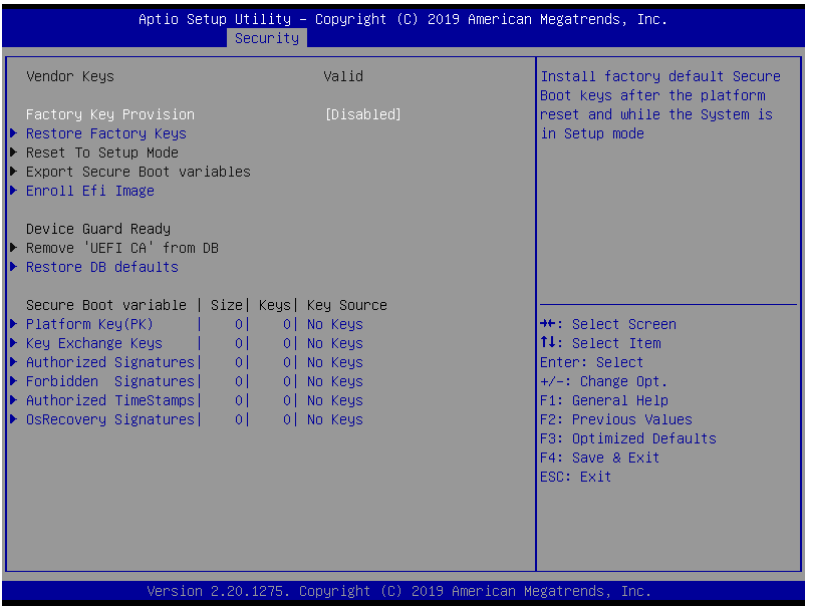
Select the password you want to remove and enter the current password. At the next dialog box press Enter to disable password protection.

3.6.1 Secure Boot



Options Summary		
Secure Boot	Disabled	Optimal Default, Failsafe Default
	Enabled	
Secure Boot feature is Active if Secure Boot is Enabled, Platform Key (PK) is enrolled and the System is in User mode. The mode change requires platform reset		
Secure Boot Mode	Custom	Optimal Default, Failsafe Default
	Standard	
Secure Boot mode options: Standard or Custom. In Custom mode, Secure Boot Policy variables can be configured by a physically present user without full authentication		
Restore Factory Keys		
Force System to User Mode. Install factory default Secure Boot key databases		
Reset To Setup Mode		
Delete all Secure Boot key databases from NVRAM		

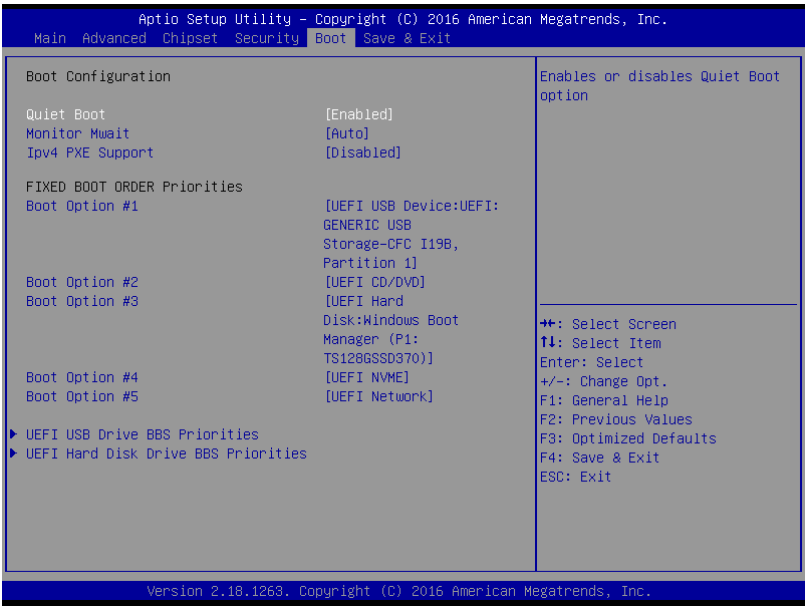
3.6.1.1 Key Management



Options Summary		
Factory Key Provision	Disabled	Optimal Default, Failsafe Default
	Enabled	
Secure Boot feature is Active if Secure Boot is Enabled, Platform Key (PK) is enrolled and the System is in User mode. The mode change requires platform reset		
Restore Factory Keys		
Force System to User Mode. Install factory default Secure Boot key databases		
Reset To Setup Mode		
Delete all Secure Boot key databases from NVRAM		
Export Secure Boot variables		
Copy NVRAM content of Secure Boot variables to files in a root folder on a file system device		
Enroll Efi Image		
Allow the image to run in Secure Boot mode. Enroll SHA256 Hash certificate of a PE image into Authorized Signature Database (db)		

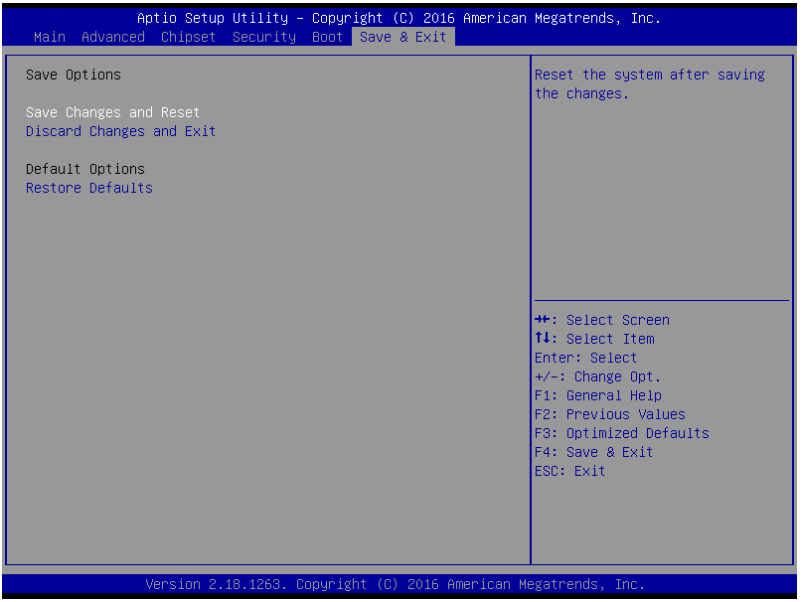
Options Summary		
Remove 'UEFI CA' from DB		
Device Guard ready system must not list 'Microsoft UEFI CA' Certificate in Authorized Signature database (db)		
Restore DB defaults		
Restore DB variable to factory defaults		
Platform Key (PK)	Details	
	Export	
	Update	
	Delete	
Key Exchange Keys	Details	
	Export	
	Update	
	Append	
	Delete	
Authorized Signatures	Details	
	Export	
	Update	
	Append	
	Delete	
Forbidden Signatures	Details	
	Export	
	Update	
	Append	
	Delete	
Authorized TimeStamps	Update	
	Append	
OsRecovery Signatures	Update	
	Append	
Enroll Factory Defaults or load certificates from a file: 1.Public Key Certificate: a) EFI_SIGNATURE_LIST b) EFI_CERT_X509 (DER) c) EFI_CERT_RSA2048 (bin) d) EFI_CERT_SHAXXX 2.Authenticated UEFI Variable 3.EFI PE/COFF Image (SHA256) Key Source: Factory, External, Mixed		

3.7 Setup Submenu: Boot



Options Summary		
Quiet Boot	Disabled	
	Enabled	Optimal Default, Failsafe Default
Enable/Disable showing boot logo.		
Monitor Mwait	Disable	
	Enabled	
	Auto	Optimal Default, Failsafe Default
Enable/Disable Monitor Mwait. To install Linux OS, please set this item to disable.		
Ipv4 PXE Support	Disabled	Optimal Default, Failsafe Default
	Enabled	
Enable Ipv4 PXE Boot Support. If disabled IPV4 PXE boot option will not be created.		

3.8 Setup submenu: Save & Exit



Chapter 4

Drivers Installation

4.1 Driver Download/Installation

Drivers for the GENESYS-APL7 can be downloaded from the product page on the AAEON website by following this link:

https://www.aaeon.com/en/p/embedded-single-board-computers-GENESYS-apl7

Download the driver(s) you need and follow the steps below to install them.

Step 1 – Install Chipset Drivers

1. Open the **Step1 - Chipset** folder.
2. Select and run **SetupChipset.exe**
3. Follow the instructions
4. Drivers will be installed automatically

Step 2 – Install Graphics Drivers

1. Open the **Step2 - VGA** folder
2. Select and run **Setup.exe**
3. Follow the instructions
4. Drivers will be installed automatically

Step 3 – Install LAN Drivers

1. Click on the **Step3 - LAN** folder and select your OS
2. Run the **Setup.exe** file in the folder
3. Follow the instructions
4. Drivers will be installed automatically

Step 4 – Install TXE Driver

1. Open the **Step4 - TXE** folder
2. Select and run **SetupTXE.exe**
3. Follow the instructions
4. Drivers will be installed automatically

Step 5 – Install Serial Port Driver

1. Open the **Step5 - SerialPort_Patch** folder
2. Select and run **Setup_x64.exe** if you have installed 64-bit version of Windows. Select and run **Setup_x86.exe** for 32-bit version of Windows.
3. Follow the instructions
4. Drivers will be installed automatically

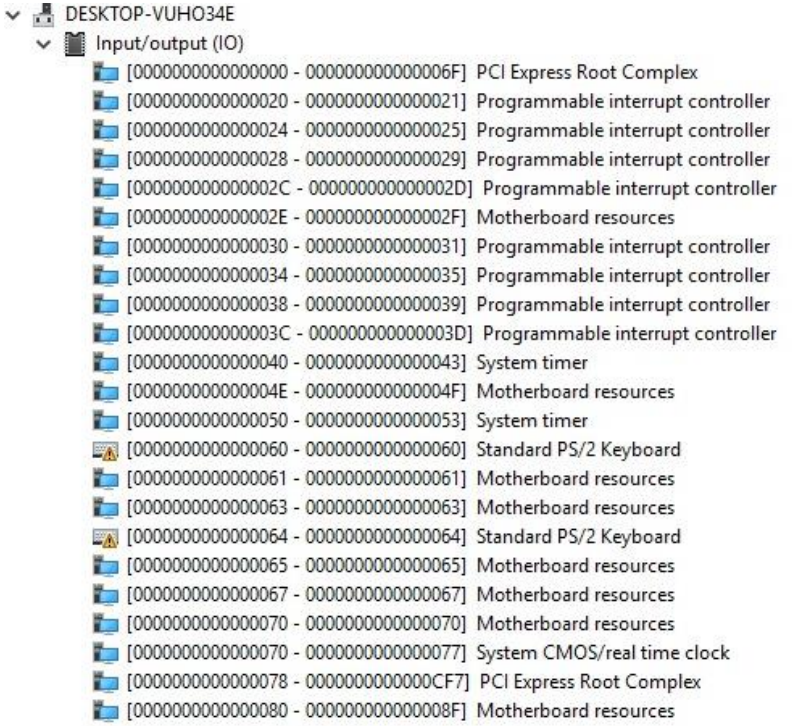
Step 6 – Install GPIO Driver

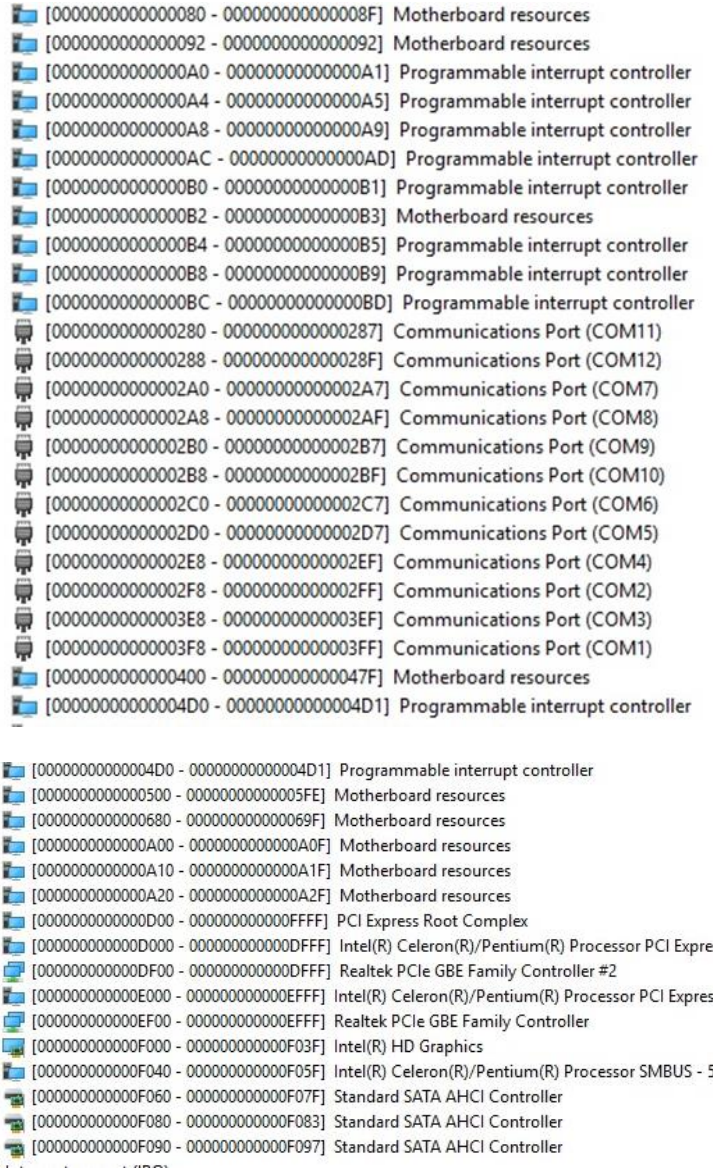
1. Open the **Step6 - GPIO** folder
2. Select and run **SetupSerialIO.exe**
3. Follow the instructions
4. Drivers will be installed automatically

Appendix A

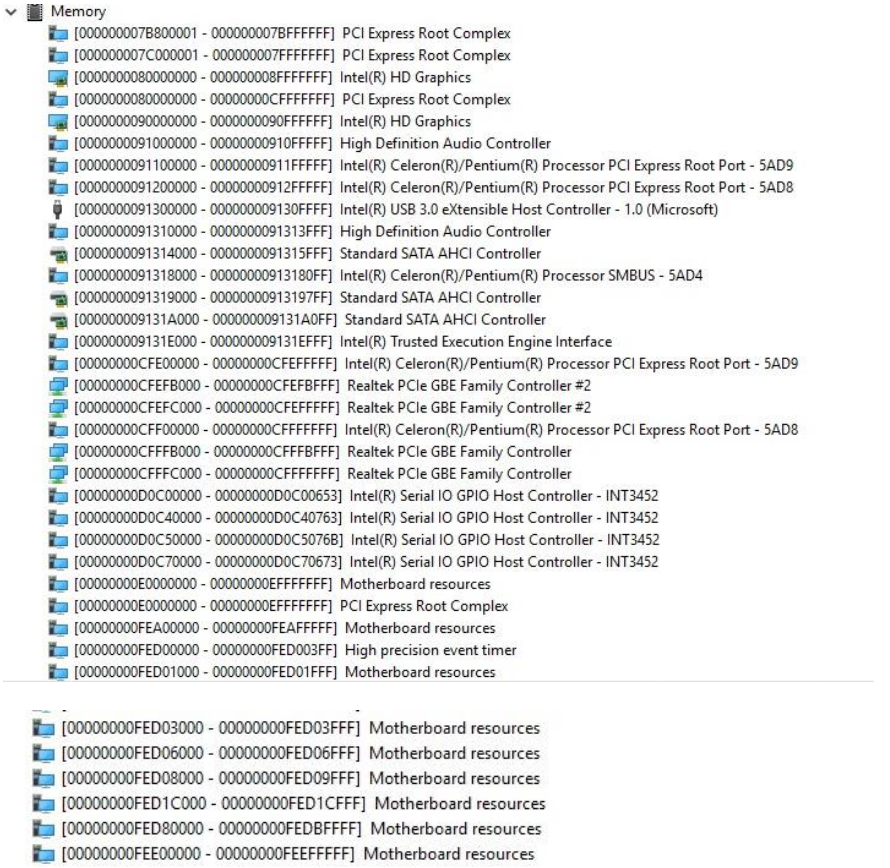
I/O Information

A.1 I/O Address Map

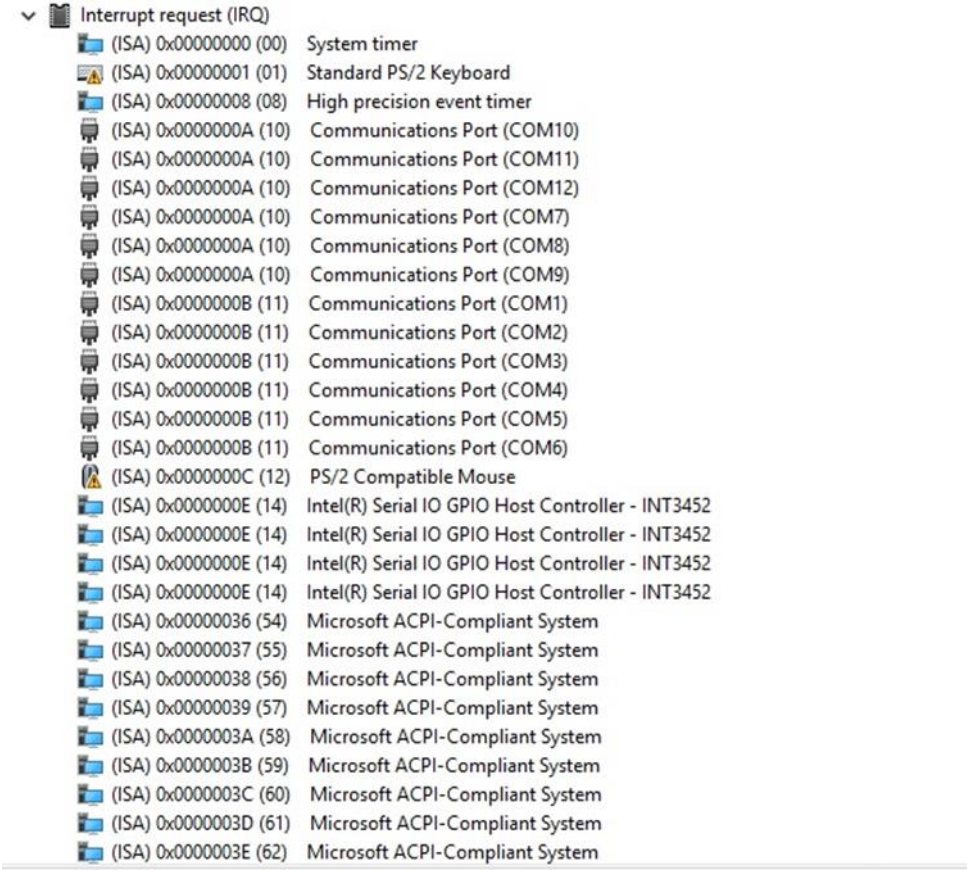



[0000000000000080 - 000000000000008F] Motherboard resources
[0000000000000092 - 0000000000000092] Motherboard resources
[00000000000000A0 - 00000000000000A1] Programmable interrupt controller
[00000000000000A4 - 00000000000000A5] Programmable interrupt controller
[00000000000000A8 - 00000000000000A9] Programmable interrupt controller
[00000000000000AC - 00000000000000AD] Programmable interrupt controller
[00000000000000B0 - 00000000000000B1] Programmable interrupt controller
[00000000000000B2 - 00000000000000B3] Motherboard resources
[00000000000000B4 - 00000000000000B5] Programmable interrupt controller
[00000000000000B8 - 00000000000000B9] Programmable interrupt controller
[00000000000000BC - 00000000000000BD] Programmable interrupt controller
[0000000000000280 - 0000000000000287] Communications Port (COM11)
[0000000000000288 - 000000000000028F] Communications Port (COM12)
[00000000000002A0 - 00000000000002A7] Communications Port (COM7)
[00000000000002A8 - 00000000000002AF] Communications Port (COM8)
[00000000000002B0 - 00000000000002B7] Communications Port (COM9)
[00000000000002B8 - 00000000000002BF] Communications Port (COM10)
[00000000000002C0 - 00000000000002C7] Communications Port (COM6)
[00000000000002D0 - 00000000000002D7] Communications Port (COM5)
[00000000000002E8 - 00000000000002EF] Communications Port (COM4)
[00000000000002F8 - 00000000000002FF] Communications Port (COM2)
[00000000000003E8 - 00000000000003EF] Communications Port (COM3)
[00000000000003F8 - 00000000000003FF] Communications Port (COM1)
[0000000000000400 - 000000000000047F] Motherboard resources
[00000000000004D0 - 00000000000004D1] Programmable interrupt controller
[00000000000004D0 - 00000000000004D1] Programmable interrupt controller
[0000000000000500 - 00000000000005FE] Motherboard resources
[0000000000000680 - 000000000000069F] Motherboard resources
[0000000000000A00 - 0000000000000A0F] Motherboard resources
[0000000000000A10 - 0000000000000A1F] Motherboard resources
[0000000000000A20 - 0000000000000A2F] Motherboard resources
[0000000000000D00 - 000000000000FFFF] PCI Express Root Complex
[000000000000D000 - 000000000000DFFF] Intel(R) Celeron(R)/Pentium(R) Processor PCI Express Root Port - 5AD9
[000000000000DF00 - 000000000000DFFF] Realtek PCIe GBE Family Controller #2
[000000000000E000 - 000000000000EFFF] Intel(R) Celeron(R)/Pentium(R) Processor PCI Express Root Port - 5AD8
[000000000000EF00 - 000000000000EFFF] Realtek PCIe GBE Family Controller
[000000000000F000 - 000000000000F03F] Intel(R) HD Graphics
[000000000000F040 - 000000000000F05F] Intel(R) Celeron(R)/Pentium(R) Processor SMBUS - 5AD4
[000000000000F060 - 000000000000F07F] Standard SATA AHCI Controller
[000000000000F080 - 000000000000F083] Standard SATA AHCI Controller
[000000000000F090 - 000000000000F097] Standard SATA AHCI Controller

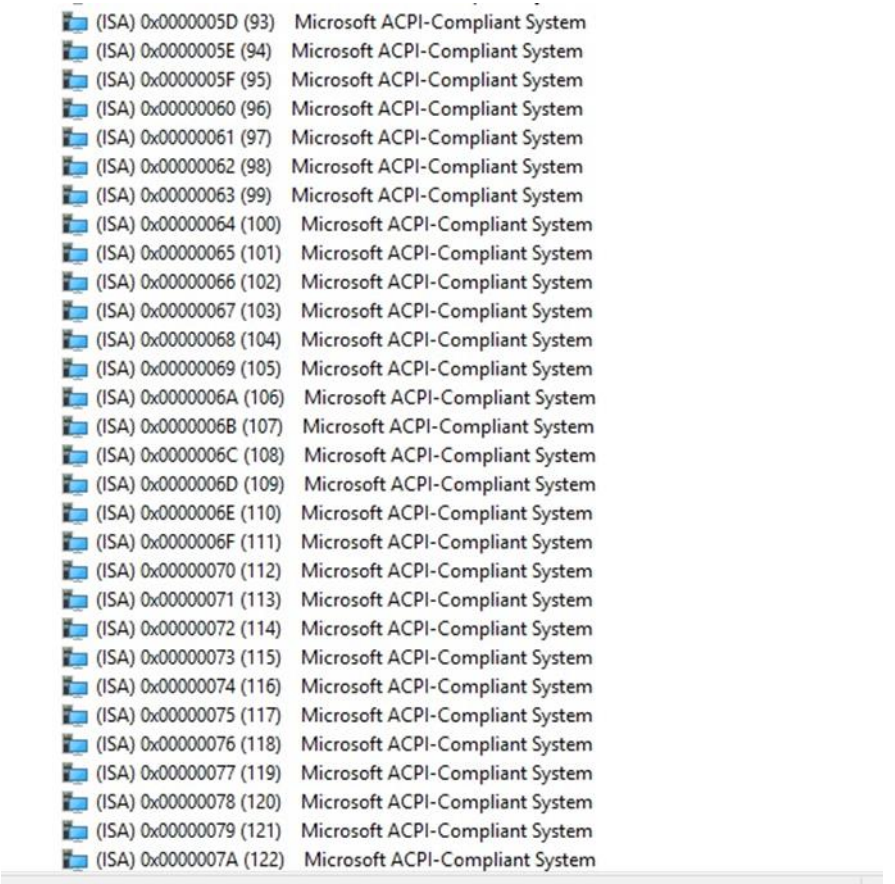
A.2 Memory Address Map



A.3 IRQ Mapping Chart



(ISA) 0x0000003E (62) Microsoft ACPI-Compliant System
(ISA) 0x0000003F (63) Microsoft ACPI-Compliant System
(ISA) 0x00000040 (64) Microsoft ACPI-Compliant System
(ISA) 0x00000041 (65) Microsoft ACPI-Compliant System
(ISA) 0x00000042 (66) Microsoft ACPI-Compliant System
(ISA) 0x00000043 (67) Microsoft ACPI-Compliant System
(ISA) 0x00000044 (68) Microsoft ACPI-Compliant System
(ISA) 0x00000045 (69) Microsoft ACPI-Compliant System
(ISA) 0x00000046 (70) Microsoft ACPI-Compliant System
(ISA) 0x00000047 (71) Microsoft ACPI-Compliant System
(ISA) 0x00000048 (72) Microsoft ACPI-Compliant System
(ISA) 0x00000049 (73) Microsoft ACPI-Compliant System
(ISA) 0x0000004A (74) Microsoft ACPI-Compliant System
(ISA) 0x0000004B (75) Microsoft ACPI-Compliant System
(ISA) 0x0000004C (76) Microsoft ACPI-Compliant System
(ISA) 0x0000004D (77) Microsoft ACPI-Compliant System
(ISA) 0x0000004E (78) Microsoft ACPI-Compliant System
(ISA) 0x0000004F (79) Microsoft ACPI-Compliant System
(ISA) 0x00000050 (80) Microsoft ACPI-Compliant System
(ISA) 0x00000051 (81) Microsoft ACPI-Compliant System
(ISA) 0x00000052 (82) Microsoft ACPI-Compliant System
(ISA) 0x00000053 (83) Microsoft ACPI-Compliant System
(ISA) 0x00000054 (84) Microsoft ACPI-Compliant System
(ISA) 0x00000055 (85) Microsoft ACPI-Compliant System
(ISA) 0x00000056 (86) Microsoft ACPI-Compliant System
(ISA) 0x00000057 (87) Microsoft ACPI-Compliant System
(ISA) 0x00000058 (88) Microsoft ACPI-Compliant System
(ISA) 0x00000059 (89) Microsoft ACPI-Compliant System
(ISA) 0x0000005A (90) Microsoft ACPI-Compliant System
(ISA) 0x0000005B (91) Microsoft ACPI-Compliant System
(ISA) 0x0000005C (92) Microsoft ACPI-Compliant System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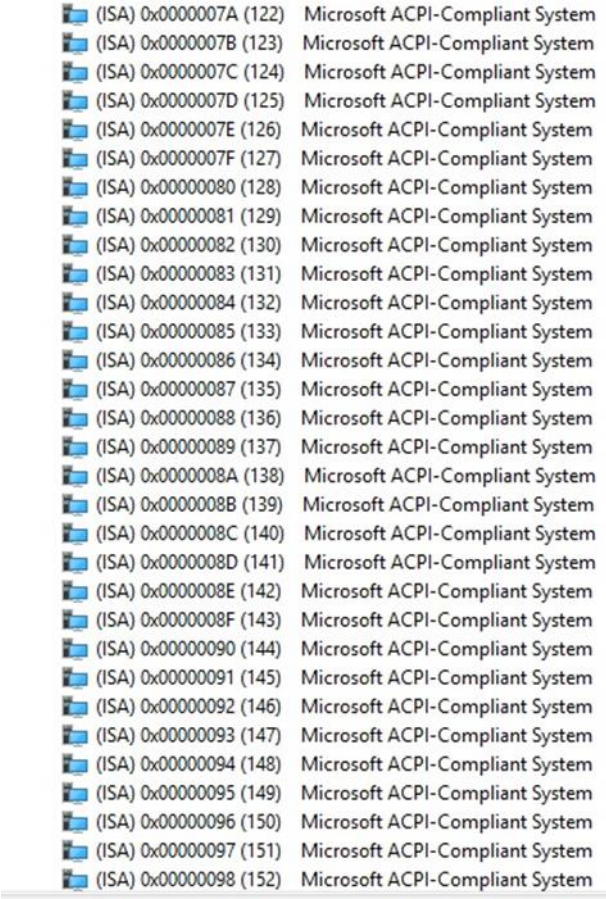
(ISA) 0x0000005F (95) Microsoft ACPI-Compliant System
(ISA) 0x00000060 (96) Microsoft ACPI-Compliant System
(ISA) 0x00000061 (97) Microsoft ACPI-Compliant System
(ISA) 0x00000062 (98) Microsoft ACPI-Compliant System
(ISA) 0x00000063 (99) Microsoft ACPI-Compliant System
(ISA) 0x00000064 (100) Microsoft ACPI-Compliant System
(ISA) 0x00000065 (101) Microsoft ACPI-Compliant System
(ISA) 0x00000066 (102) Microsoft ACPI-Compliant System
(ISA) 0x00000067 (103) Microsoft ACPI-Compliant System
(ISA) 0x00000068 (104) Microsoft ACPI-Compliant System
(ISA) 0x00000069 (105) Microsoft ACPI-Compliant System
(ISA) 0x0000006A (106) Microsoft ACPI-Compliant System
(ISA) 0x0000006B (107) Microsoft ACPI-Compliant System
(ISA) 0x0000006C (108) Microsoft ACPI-Compliant System
(ISA) 0x0000006D (109) Microsoft ACPI-Compliant System
(ISA) 0x0000006E (110) Microsoft ACPI-Compliant System
(ISA) 0x0000006F (111) Microsoft ACPI-Compliant System
(ISA) 0x00000070 (112) Microsoft ACPI-Compliant System
(ISA) 0x00000071 (113) Microsoft ACPI-Compliant System
(ISA) 0x00000072 (114) Microsoft ACPI-Compliant System
(ISA) 0x00000073 (115) Microsoft ACPI-Compliant System
(ISA) 0x00000074 (116) Microsoft ACPI-Compliant System
(ISA) 0x00000075 (117) Microsoft ACPI-Compliant System
(ISA) 0x00000076 (118) Microsoft ACPI-Compliant System
(ISA) 0x00000077 (119) Microsoft ACPI-Compliant System
(ISA) 0x00000078 (120) Microsoft ACPI-Compliant System
(ISA) 0x00000079 (121) Microsoft ACPI-Compliant System
(ISA) 0x0000007A (122) Microsoft ACPI-Compliant System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(ISA) 0x0000007E (126) Microsoft ACPI-Compliant System
(ISA) 0x0000007F (127) Microsoft ACPI-Compliant System
(ISA) 0x00000080 (128) Microsoft ACPI-Compliant System
(ISA) 0x00000081 (129) Microsoft ACPI-Compliant System
(ISA) 0x00000082 (130) Microsoft ACPI-Compliant System
(ISA) 0x00000083 (131) Microsoft ACPI-Compliant System
(ISA) 0x00000084 (132) Microsoft ACPI-Compliant System
(ISA) 0x00000085 (133) Microsoft ACPI-Compliant System
(ISA) 0x00000086 (134) Microsoft ACPI-Compliant System
(ISA) 0x00000087 (135) Microsoft ACPI-Compliant System
(ISA) 0x00000088 (136) Microsoft ACPI-Compliant System
(ISA) 0x00000089 (137) Microsoft ACPI-Compliant System
(ISA) 0x0000008A (138) Microsoft ACPI-Compliant System
(ISA) 0x0000008B (139) Microsoft ACPI-Compliant System
(ISA) 0x0000008C (140) Microsoft ACPI-Compliant System
(ISA) 0x0000008D (141) Microsoft ACPI-Compliant System
(ISA) 0x0000008E (142) Microsoft ACPI-Compliant System
(ISA) 0x0000008F (143) Microsoft ACPI-Compliant System
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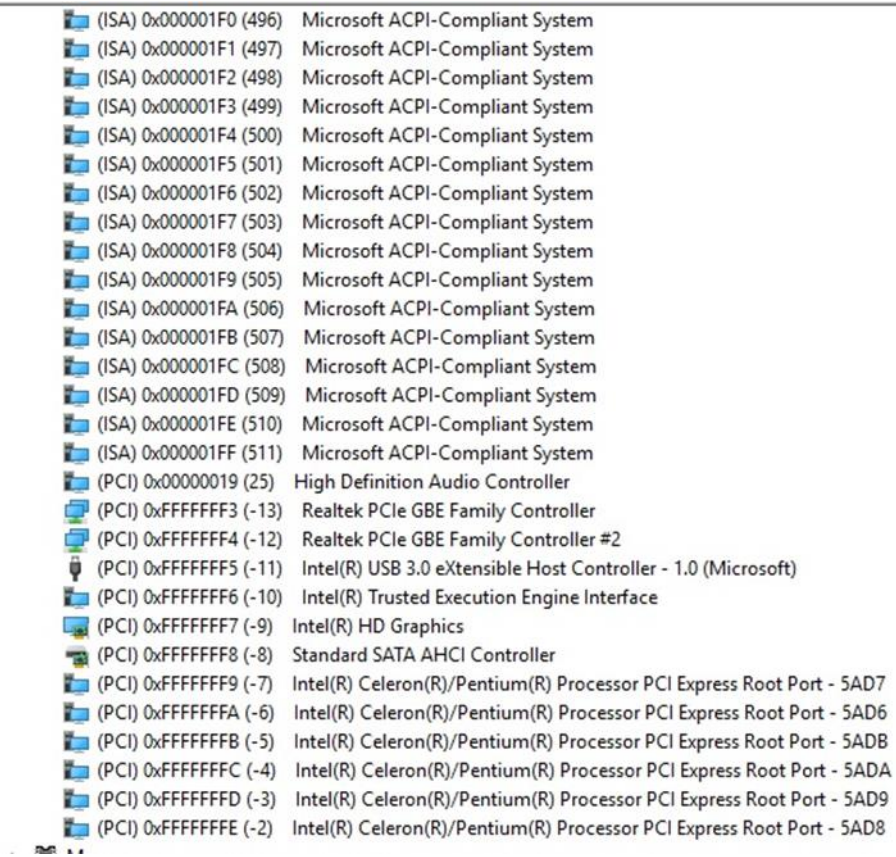
(ISA) 0x00000093 (147) Microsoft ACPI-Compliant System
(ISA) 0x00000094 (148) Microsoft ACPI-Compliant System
(ISA) 0x00000095 (149) Microsoft ACPI-Compliant System
(ISA) 0x00000096 (150) Microsoft ACPI-Compliant System
(ISA) 0x00000097 (151) Microsoft ACPI-Compliant System
(ISA) 0x00000098 (152) Microsoft ACPI-Compliant System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(ISA) 0x000001F3 (499) Microsoft ACPI-Compliant System
(ISA) 0x000001F4 (500) Microsoft ACPI-Compliant System
(ISA) 0x000001F5 (501) Microsoft ACPI-Compliant System
(ISA) 0x000001F6 (502) Microsoft ACPI-Compliant System
(ISA) 0x000001F7 (503) Microsoft ACPI-Compliant System
(ISA) 0x000001F8 (504) Microsoft ACPI-Compliant System
(ISA) 0x000001F9 (505) Microsoft ACPI-Compliant System
(ISA) 0x000001FA (506) Microsoft ACPI-Compliant System
(ISA) 0x000001FB (507) Microsoft ACPI-Compliant System
(ISA) 0x000001FC (508) Microsoft ACPI-Compliant System
(ISA) 0x000001FD (509) Microsoft ACPI-Compliant System
(ISA) 0x000001FE (510) Microsoft ACPI-Compliant System
(ISA) 0x000001FF (511) Microsoft ACPI-Compliant System
(PCI) 0x00000019 (25) High Definition Audio Controller
(PCI) 0xFFFFFFF3 (-13) Realtek PCIe GBE Family Controller
(PCI) 0xFFFFFFF4 (-12) Realtek PCIe GBE Family Controller #2
(PCI) 0xFFFFFFF5 (-11) Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)
(PCI) 0xFFFFFFF6 (-10) Intel(R) Trusted Execution Engine Interface
(PCI) 0xFFFFFFF7 (-9) Intel(R) HD Graphics
(PCI) 0xFFFFFFF8 (-8) Standard SATA AHCI Controller
(PCI) 0xFFFFFFF9 (-7) Intel(R) Celeron(R)/Pentium(R) Processor PCI Express Root Port - 5AD7
(PCI) 0xFFFFFFFA (-6) Intel(R) Celeron(R)/Pentium(R) Processor PCI Express Root Port - 5AD6
(PCI) 0xFFFFFFFB (-5) Intel(R) Celeron(R)/Pentium(R) Processor PCI Express Root Port - 5ADB
(PCI) 0xFFFFFFFC (-4) Intel(R) Celeron(R)/Pentium(R) Processor PCI Express Root Port - 5ADA
(PCI) 0xFFFFFFFD (-3) Intel(R) Celeron(R)/Pentium(R) Processor PCI Express Root Port - 5AD9
(PCI) 0xFFFFFFFE (-2) Intel(R) Celeron(R)/Pentium(R) Processor PCI Express Root Port - 5AD8

Appendix B

Mating Connectors

B.1 List of Mating Connectors and Cables

The table notes mating connectors and available cables.

Function	Description	Mating Connector Vendor	Vendor P/N	Pin No	AAEON P/N	Mating Cable P/N
COM (CN12, CN13, CN14, CN15, CN25, CN26)	WAFER BOX.9P.180D(M). DIP.1.25mm	PINREX	712-71-09TW01	9	1655909034	1701090201
Front Panel (JP6)	PIN HEADER.5*2P.180D(M).DIP.2.0mm	PINREX	220-97-05GB01	10	165300520X	1702100203
SATA PWR(5V) (CN27)	WAFER BOX.2P.180D(M). DIP.2.0mm.w/LOCK	PINREX	721-81-02TW00	2	1655302025	170X000058
CMOS Battery (CN28)	WAFER BOX.2P.180D(M). DIP.1.25mm.	PINREX	712-71-02TW01	2	1655902034	1701090201
USB (CN29, CN30)	WAFER BOX.5P.180D(M). DIP.1.25mm	PINREX	712-71-05TW01	5	1655905038	1709080254
SATA (CN37)	SATA CONNECTOR.7P.180D(M).SMT	TechBest	007-01-00757	7	1654907009	170X000056
Power In (CN6)	TERMINAL.2P*1.90D(M).DIP.Pitch=5.0mm.BLOCK.w/L(+)&R(-) MARK	DINKLE	DT-126VP-S2016002P	2	1652602105	1702030200
Fan Connector (CN22)	WAFER.3P.180D(M).DIP.2.54mm	PINREX	742-81-03TW00	3	1655003016	17592W0005