BOXER-8320AI

Compact Fanless Embedded AI@Edge Box PC

User's Manual 2nd Ed

Last Updated: November 29, 2019

Copyright Notice

Acknowledgement

Packing List

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

Item	Quantity
● BOXER-8320AI	1
● Din Rail bracket	1
● Screw Package	1
● 3 Pin DC-In Power Connector	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 on 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 power 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.
19. Do NOT disassemble the motherboard so as not to damage the system or void your warranty.
20. If the thermal pad had been damaged, please contact AAEON's salesperson to purchase a new one. Do NOT use those of other brands.
21. The Hex Cylinder Coppers on the front panel are not removable.
22. Repeatedly assemble and disassemble the system may cause damages to the exterior paint and surface and screw holes.
23. Use the right size screwdriver.
24. Use the screwdriver correctly to remove screws from the system.

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.A0

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。

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)

Hazardous and Toxic Materials List

AAEON System QO4-381 Rev.A0

Component Name	Hazardous or Toxic Materials or Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr(VI))	Polybrominated biphenyls (PBBs)	Polybrominated diphenyl ethers (PBDEs)
PCB and Components	X	O	O	O	O	O
Wires & Connectors for Ext. Connections	X	O	O	O	O	O
Chassis	O	O	O	O	O	O
CPU & RAM	X	O	O	O	O	O
HDD Drive	X	O	O	O	O	O
LCD Module	X	X	O	O	O	O
Optical Drive	X	O	O	O	O	O
Touch Control Module	X	O	O	O	O	O
PSU	X	O	O	O	O	O
Battery	X	O	O	O	O	O

This form is prepared in compliance with the provisions of SJ/T 11364.

O: The level of toxic or hazardous materials present in this component and its parts is below the limit specified by GB/T 26572.

X: The level of toxic of hazardous materials present in the component exceed the limits specified by GB/T 26572, but is still in compliance with EU Directive 2011/65/EU (RoHS 2).

Notes:

1. The Environment Friendly Use Period indicated by labelling on this product is applicable only to use under normal conditions.
2. Individual components including the CPU, RAM/memory, HDD, optical drive, and PSU are optional.
3. LCD Module and Touch Control Module only applies to certain products which feature these components.

Table of Contents

Chapter 1

Product Specifications

1.1 Specifications

System	
CPU	Intel® Core™ i3-6100U
Chipset	Intel® System on Chip
System Memory	DDR4 SODIMM slot x 1, supports 2133MHz, up to 16 GB
AI Solution	Intel® Movidius™ Myriad™ X x 2
Display Interface	HDMI, VGA
Storage Device	2.5" SATA Drive Bay x 1
Ethernet	10/100/1000 Base-TX x2
I/O	DB-9 x4 for RS-232/422/485 RJ-45 x 2 for GbE (i210IT x 2) USB 3.2 Gen 1 x 4 VGA x 1 HDMI x 1 Antenna Holes x 2 Power Button Power Input
Indicator	Power LED
OS Support	Linux (Debian 9.8)

Power Supply	
Power Requirement	9 - 30V DC-In Power input x1

Mechanical

Mounting	DIN Rail Mount Wallmount (Mounting kit is optional)
Dimensions (W x H x D)	67mm (W) x 186.2mm (H) x 151.5mm (D)
Gross Weight	6.1 lbs. (2.8 kg)
Net Weight	3.9 lbs. (1.8 kg)

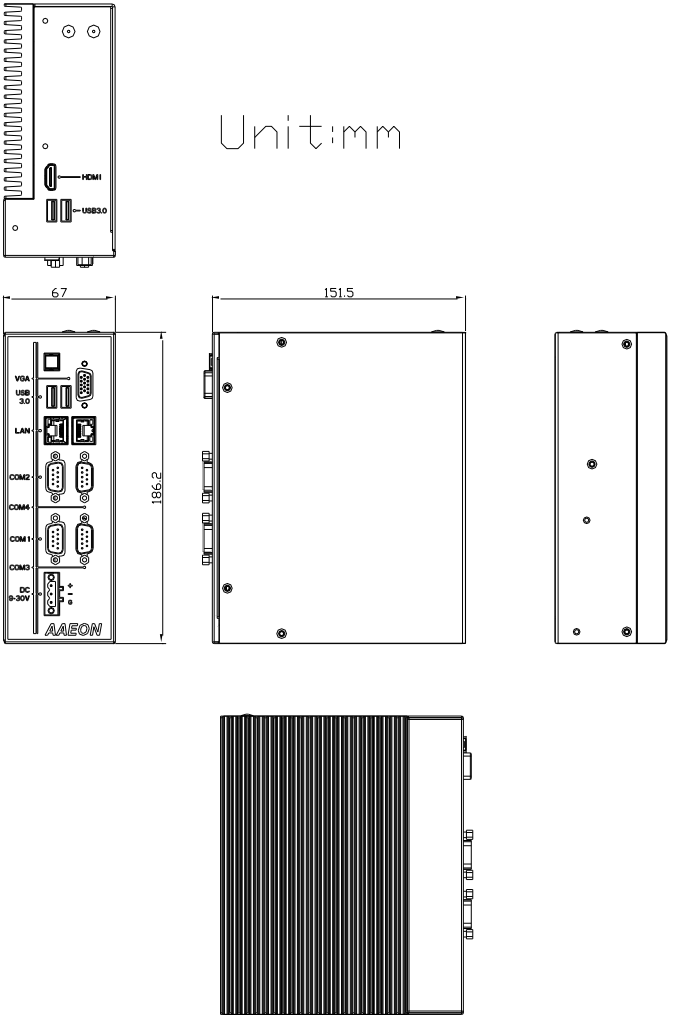
Environmental

Operating Temperature	-25°C ~ 60°C with W.T. SSD (according to IEC68-2-14 with 0.5 m/s airflow; with industrial devices)
Storage Temperature	-49°F ~ 176°F (-45°C ~ 80°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	3 Grms/ 5 ~ 500Hz/ operation – SSD
Certification	CE/FCC class A

Chapter 2

Hardware Information

2.1 Dimensions

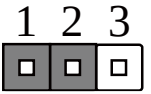


2.2 List of Jumpers

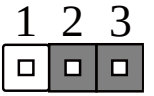
Please refer to the table below for all of the system's jumpers that you can configure for your application.

Label	Function
JP5	Auto Power Button Enable/Disable Selection
JP7	Clear CMOS Jumper
JP9	COM2 Pin8 Function Selection
JP10	COM1 Pin8 Function Selection

2.2.1 Auto Power Button Enable/Disable Selection (JP5)

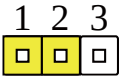


Disable (Default)

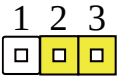


Enable

2.2.2 Clear CMOS (JP7)

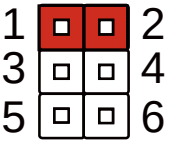


Normal (Default)

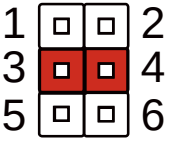


Clear CMOS

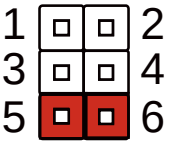
2.2.3 COM2 Pin8 Function Selection (JP9)



+12V

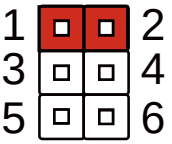


Ring(Default)

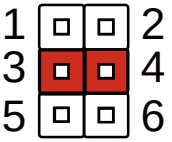


+5V

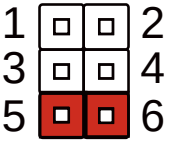
2.2.4 COM1 Pin8 Function Selection (JP10)



+12V



Ring(Default)



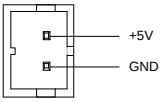
+5V

2.3 List of Connectors

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

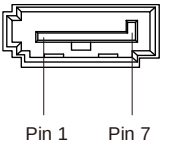
Label	Function
CN12	+5V Output for SATA HDD
CN13	SATA Port
CN15	HDMI Connector
CN19	Dual USB 3.2 Gen 1 Port
CN20	Battery
CN23	LAN Port (RJ45)
CN24	Dual USB 3.2 Gen 1 Port
CN25	External Power Input
CN26	COM Port 2
CN27	COM Port 1

2.3.1 +5V Output for SATA HDD (CN12)



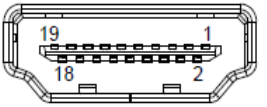
Pin	Pin Name	Signal Type	Signal Level
1	+5V	PWR	+5V
2	GND	GND	

2.3.2 SATA Port (CN13)



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	

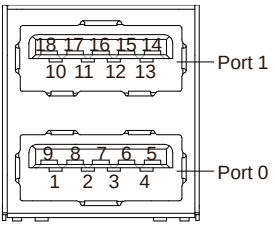
2.3.3 HDMI Connector (CN15)



Pin	Pin Name	Signal Type	Signal Level
1	DVI_D2+	OUT	
2	GND	GND	
3	DVI_D2-	OUT	
4	DVI_D1+	OUT	
5	GND	GND	
6	DVI_D1-	OUT	
7	DVI_D0+	OUT	
8	GND	GND	

Pin	Pin Name	Signal Type	Signal Level
9	DVI_D0-	OUT	
10	DVI_CLK+	OUT	
11	GND	GND	
12	DVI_CLK-	OUT	
13	NC		
14	NC		
15	SCL	I/O	
16	SDA	I/O	
17	GND	GND	
18	+5V	PWR	
19	HPD	IN	

2.3.4 Dual USB 3.2 Gen 1 Port (CN19)



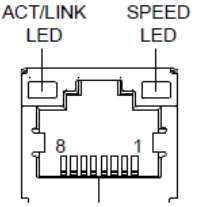
Pin	Pin Name	Signal Type	Signal Level
1	+5VSB	PWR	+5V
2	USB_D-	DIFF	
3	USB_D+	DIFF	
4	GND	GND	
5	USB_SSRX–	DIFF	
6	USB_SSRX+	DIFF	
7	GND	GND	

Pin	Pin Name	Signal Type	Signal Level
8	USB_SSTX–	DIFF	
9	USB_SSTX+	DIFF	
10	+5VSB	PWR	+5V
11	USB_D-	DIFF	
12	USB_D+	DIFF	
13	GND	GND	
14	USB_SSRX–	DIFF	
15	USB_SSRX+	DIFF	
16	GND	GND	
17	USB_SSTX–	DIFF	
18	USB_SSTX+	DIFF	

2.3.5 Battery (CN20)

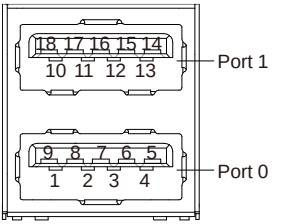
Pin	Pin Name	Signal Type	Signal Level
1	+3.3V	PWR	3.3V
2	GND	GND	

2.3.6 LAN (RJ45) Connector (CN23)



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

2.3.7 Dual USB 3.2 Gen 1 Port (CN24)



Pin	Pin Name	Signal Type	Signal Level
1	+5VSB	PWR	+5V
2	USB_D-	DIFF	
3	USB_D+	DIFF	
4	GND	GND	
5	USB_SSRX–	DIFF	
6	USB_SSRX+	DIFF	
7	GND	GND	
8	USB_SSTX–	DIFF	

Pin	Pin Name	Signal Type	Signal Level
9	USB_SSTX+	DIFF	
10	+5VSB	PWR	+5V
11	USB_D-	DIFF	
12	USB_D+	DIFF	
13	GND	GND	
14	USB_SSRX–	DIFF	
15	USB_SSRX+	DIFF	
16	GND	GND	
17	USB_SSTX–	DIFF	
18	USB_SSTX+	DIFF	

2.3.8 External Power Input (CN25)

Pin	Pin Name	Signal Type	Signal Level
1	+12V	PWR	+9~+24V (or +12V)
2	GND	GND	

2.3.9 COM Port 2 (CN26)

RS-232			
Pin	Pin Name	Signal Type	Signal level
1	DCD	IN	
2	RX	IN	
3	TX	OUT	±5V
4	DTR	OUT	±5V
5	GND	GND	
6	DSR	IN	
7	RTS	OUT	±5V
8	CTS	IN	
9	RI/+5V/+12V	IN/ PWR	+5V/+12V

RS-422			
Pin	Pin Name	Signal Type	Signal level
1	RS422_TX-	OUT	
2	RS422_TX+	OUT	
3	RS422_RX+	IN	
4	RS422_RX-	IN	
5	NC		
6	NC		
7	NC		
8	GND	GND	
9	NC/+5V/+12V	PWR	+5V/+12V

RS-485			
Pin	Pin Name	Signal Type	Signal level
1	RS485_D-	I/O	
2	RS485_D+	I/O	
3	NC		
4	NC		
5	NC		
6	NC		
7	NC		
8	GND	GND	
9	NC/+5V/+12V	PWR	+5V/+12V

* COM2 RS-232/422/485 can be set through BIOS setting. Default is RS-232.

* Pin 8 function can be set by JP11.

2.3.10 COM Port 1 (CN27)

RS-232			
Pin	Pin Name	Signal Type	Signal level
1	DCD	IN	
2	RX	IN	
3	TX	OUT	±5V
4	DTR	OUT	±5V
5	GND	GND	
6	DSR	IN	
7	RTS	OUT	±5V
8	CTS	IN	
9	RI/+5V/+12V	IN/ PWR	+5V/+12V

RS-422			
Pin	Pin Name	Signal Type	Signal level
1	RS422_TX-	OUT	
2	RS422_TX+	OUT	
3	RS422_RX+	IN	
4	RS422_RX-	IN	
5	NC		
6	NC		
7	NC		
8	GND	GND	
9	NC/+5V/+12V	PWR	+5V/+12V

RS-485			
Pin	Pin Name	Signal Type	Signal level
1	RS485_D-	I/O	
2	RS485_D+	I/O	
3	NC		
4	NC		
5	NC		
6	NC		
7	NC		
8	GND	GND	
9	NC/+5V/+12V	PWR	+5V/+12V

* COM1 RS-232/422/485 can be set through BIOS setting. Default is RS-232.

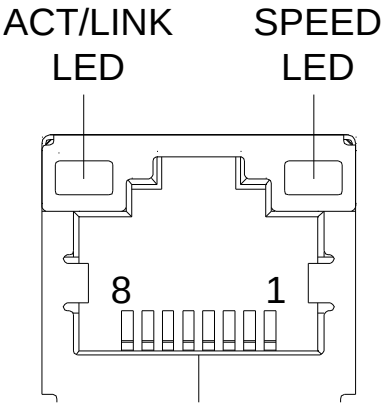
* Pin 8 function can be set by JP9.

2.4 List of Connectors (PER-T506)

Connectors on board access link to external devices such as hard disk drives, a keyboard.

Label	Function
CN2	LAN
CN9	COM3
CN10	COM4

2.4.1 LAN (RJ-45) Port (CN2)



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	

2.4.2 COM Port 3 (CN9)

RS-232			
Pin	Pin Name	Signal Type	Signal level
1	DCD	IN	
2	RX	IN	
3	TX	OUT	±5V
4	DTR	OUT	±5V
5	GND	GND	
6	DSR	IN	
7	RTS	OUT	±5V
8	CTS	IN	
9	RI	IN	

RS-422			
Pin	Pin Name	Signal Type	Signal level
1	RS422_TX-	OUT	
2	RS422_TX+	OUT	
3	RS422_RX+	IN	
4	RS422_RX-	IN	
5	NC		
6	NC		
7	NC		
8	GND	GND	
9	NC		

RS-485			
Pin	Pin Name	Signal Type	Signal level
1	RS485_D-	I/O	
2	RS485_D+	I/O	
3	NC		
4	NC		
5	NC		
6	NC		
7	NC		
8	GND	GND	
9	NC		

Note: COM3 RS-232/422/485 can be set by BIOS setting. Default is RS-232.

2.4.3 COM Port 4 (CN10)

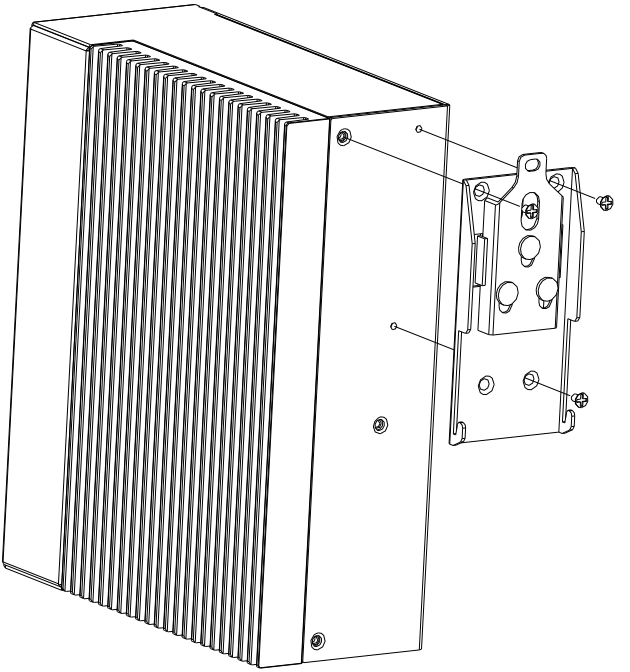
RS-232			
Pin	Pin Name	Signal Type	Signal level
1	DCD	IN	
2	RX	IN	
3	TX	OUT	±5V
4	DTR	OUT	±5V
5	GND	GND	
6	DSR	IN	
7	RTS	OUT	±5V
8	CTS	IN	
9	RI	IN	

RS-422			
Pin	Pin Name	Signal Type	Signal level
1	RS422_TX-	OUT	
2	RS422_TX+	OUT	
3	RS422_RX+	IN	
4	RS422_RX-	IN	
5	NC		
6	NC		
7	NC		
8	GND	GND	
9	NC		

RS-485			
Pin	Pin Name	Signal Type	Signal level
1	RS485_D-	I/O	
2	RS485_D+	I/O	
3	NC		
4	NC		
5	NC		
6	NC		
7	NC		
8	GND	GND	
9	NC		

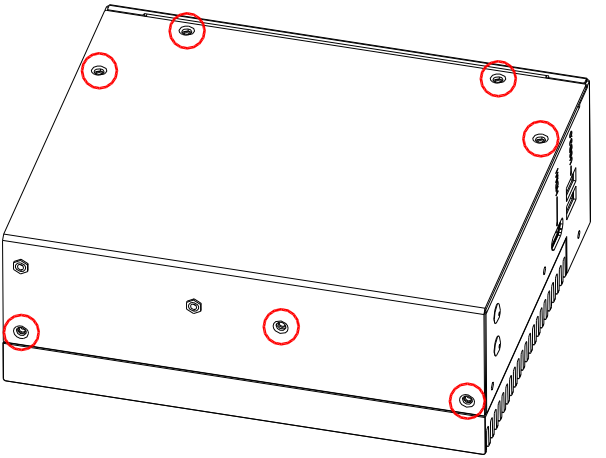
Note: COM4 RS-232/422/485 can be set by BIOS setting. Default is RS-232.

2.5 Din Rail Mount Installation

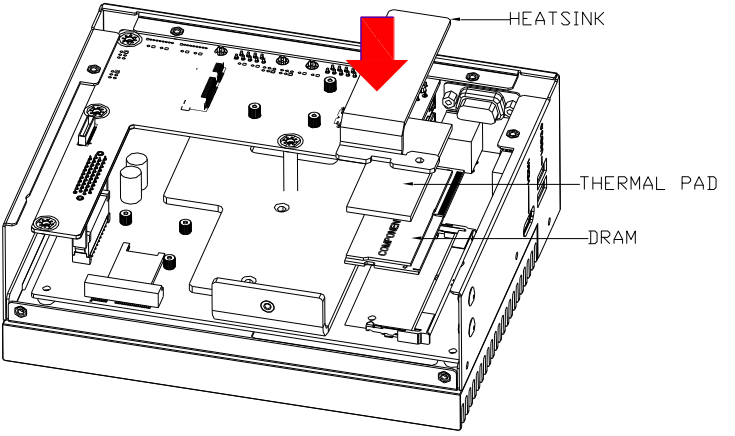


2.6 RAM Installation

Step 1: Remove the baseplate as instructed below

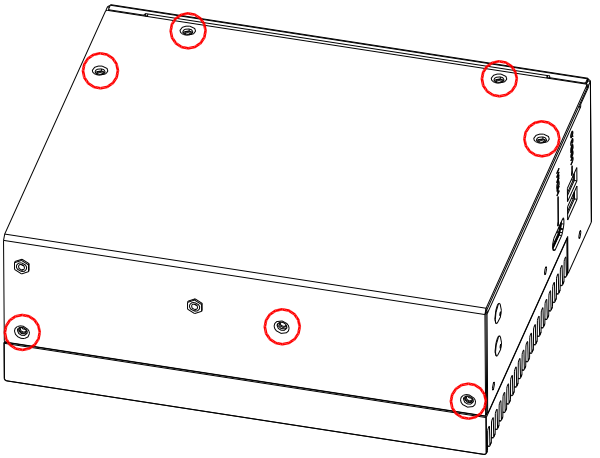


Step 2: Push down to secure the RAM

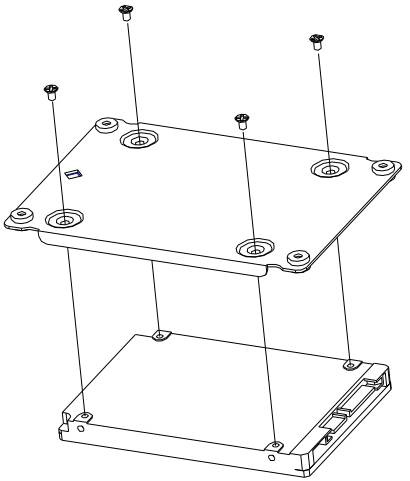


2.7 Hard Drive/ SSD Installation

Step 1: Remove the baseplate as instructed below.

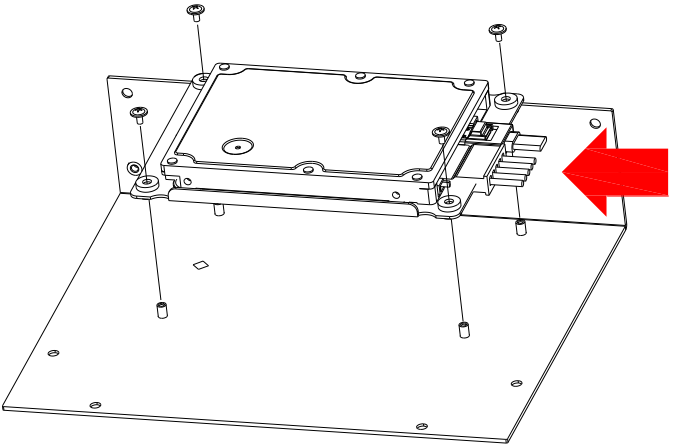


Step 2: Secure the HDD/SSD to the bracket plate.



Step 3: Connect the SATA and Power cables to the HDD/SSD assembly.

Step 4: Secure the HDD/SSD assembly to the baseplate as shown. Check that the assembly is oriented properly.



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 an error message. The board 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. If they do not match, an error message will be output, and the BIOS setup program will need to be run to set the configuration information in memory.

There are three situations in which the CMOS settings will need to be set or changed:

- Starting the system for the first time
- The system hardware has been changed
- The CMOS memory has lost power and the configuration information is erased

The system's CMOS memory uses a backup battery 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, press <Del> immediately while your computer is powering up.

The function for each interface can be found below.

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 – For hosting bridge parameters

Security – The setup administrator password can be set here

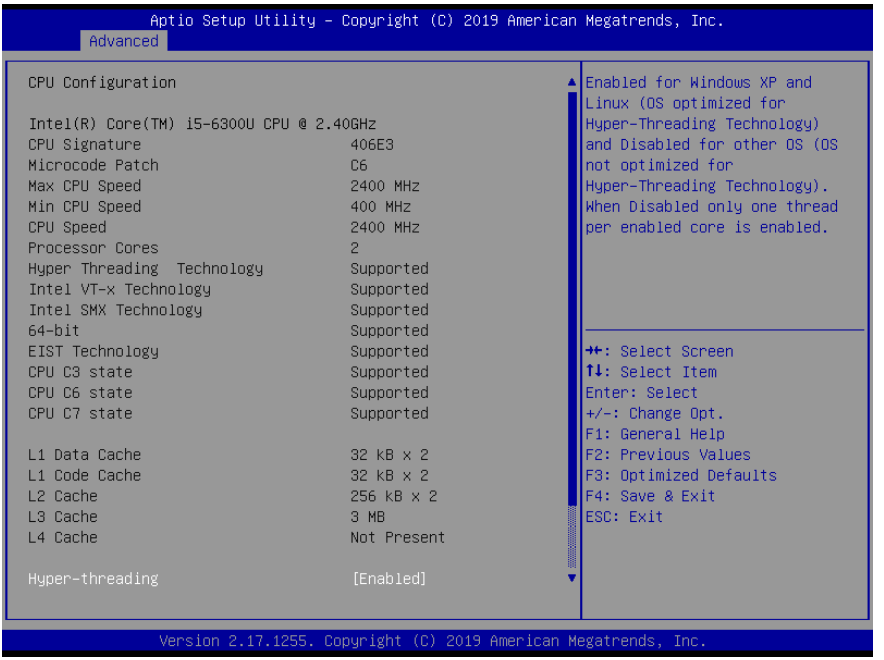
Boot – Enable/disable Quiet Boot option

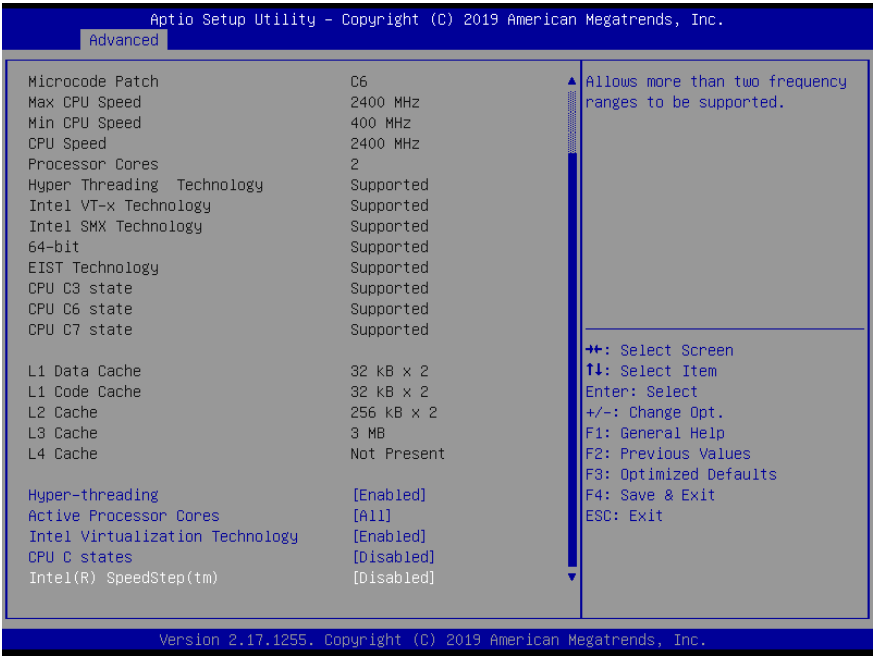
Save & Exit –Save your changes and exit the program

3.3 Setup Submenu: Main

3.4 Setup Submenu: Advanced

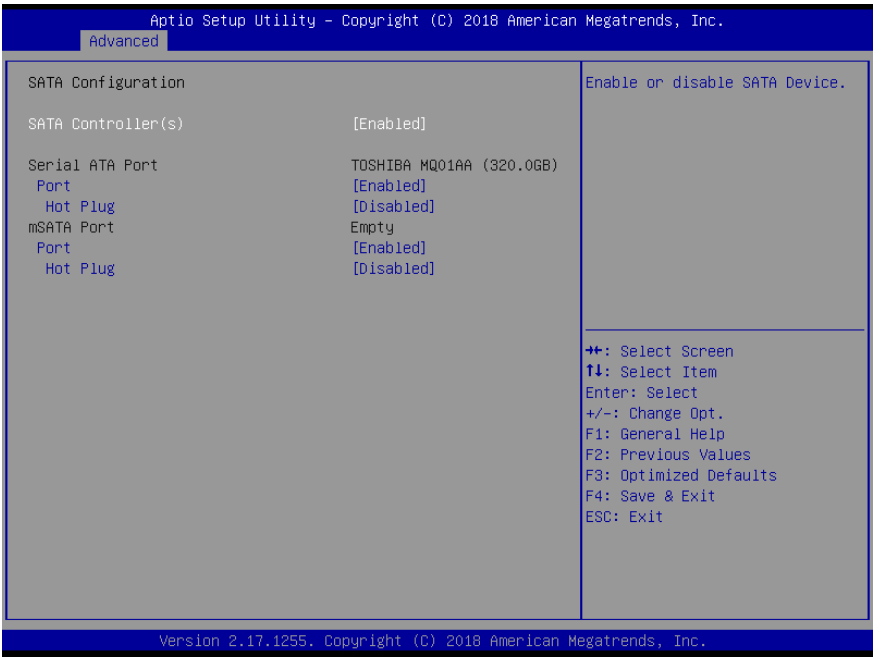
3.4.1 Advanced: CPU Configuration





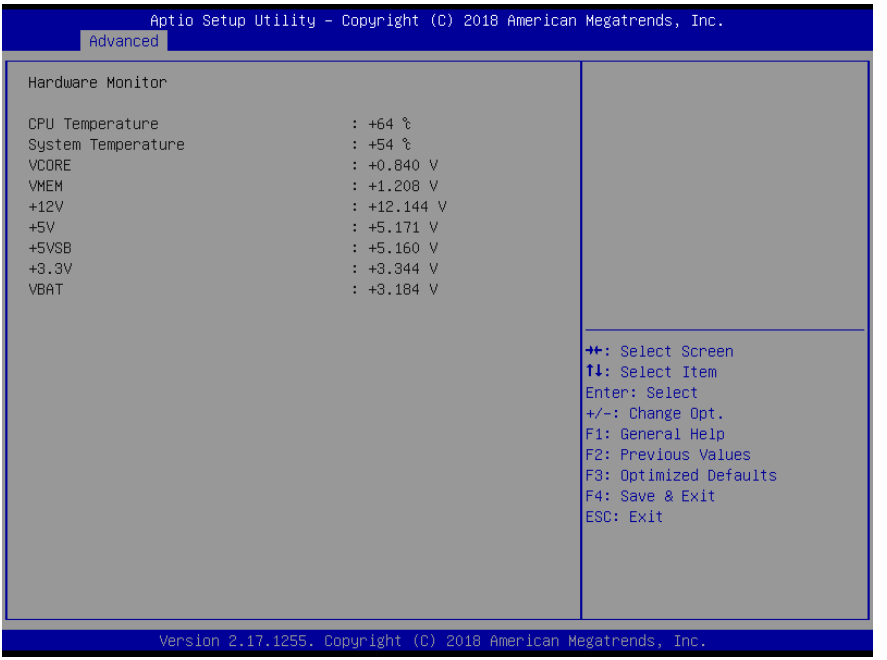
Options Summary		
Hyper-threading	Disabled	
	Enabled	Optimal Default
Enabled for Windows XP and Linux (OS optimized for Hyper-Threading Technology) And Disabled for other OS (OS not optimized for Hyper-Threading Technology). When Disabled only one thread per enabled core is enabled		
Active Processor Cores	1	
	All	Optimal Default
Number of cores to enable in each processor package.		
Intel Virtualization Technology	Disabled	
	Enabled	Optimal Default
When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology		
CPU C States	Disabled	Optimal Default
	Enabled	
Enable or disable CPU C states		
Intel(R) SpeedStep(tm)	Disabled	Optimal Default
	Enabled	
Allows more than two frequency ranges to be supported.		

3.4.2 Advanced: SATA Configuration

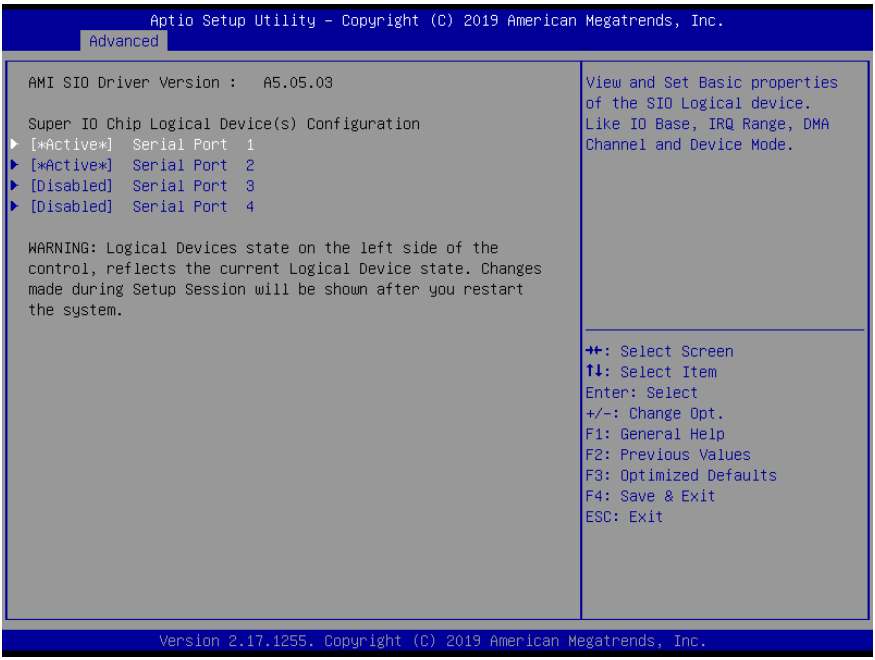


Options Summary		
SATA Controller(s)	Enabled	Optimal Default
	Disabled	
Enable or Disable SATA Device.		
Port	Enabled	Optimal Default
	Disabled	
Enable or Disable SATA Port.		
Hot Plug	Enabled	
	Disabled	Optimal Default
Designates this port as Hot Pluggable.		

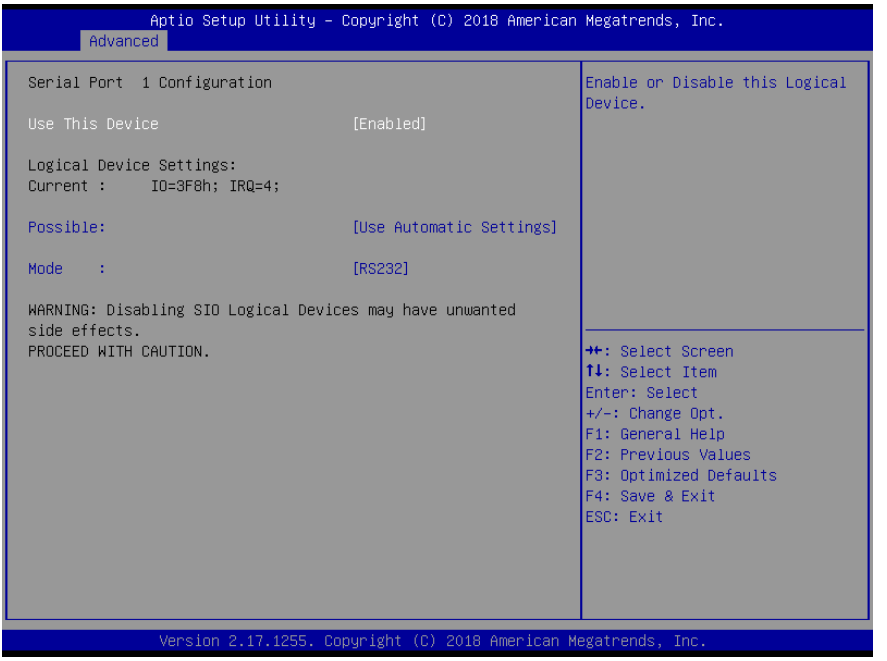
3.4.3 Advanced: Hardware Monitor



3.4.4 Advanced: SIO Configuration

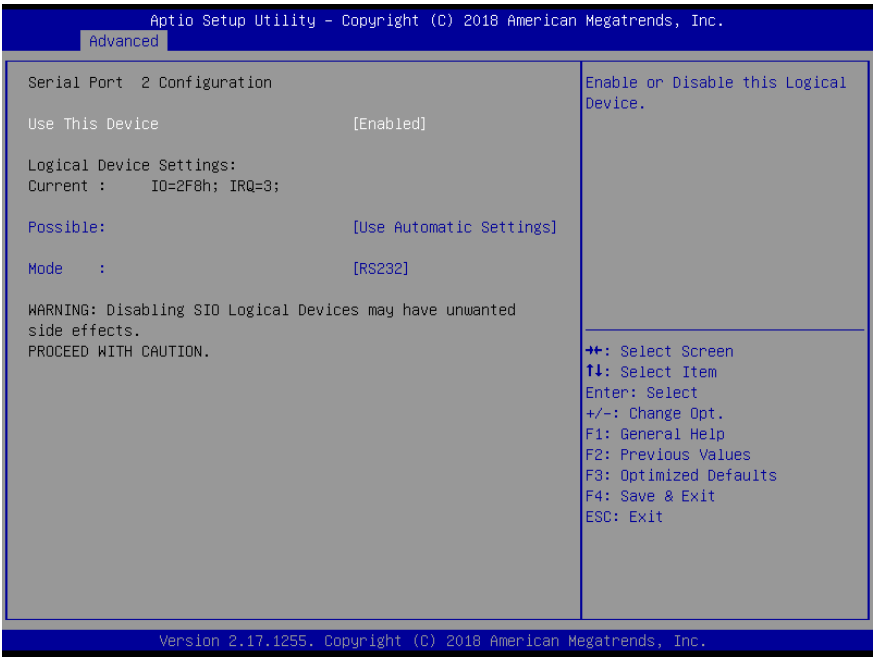


3.4.4.1 SIO Configuration: Serial Port 1 Configuration



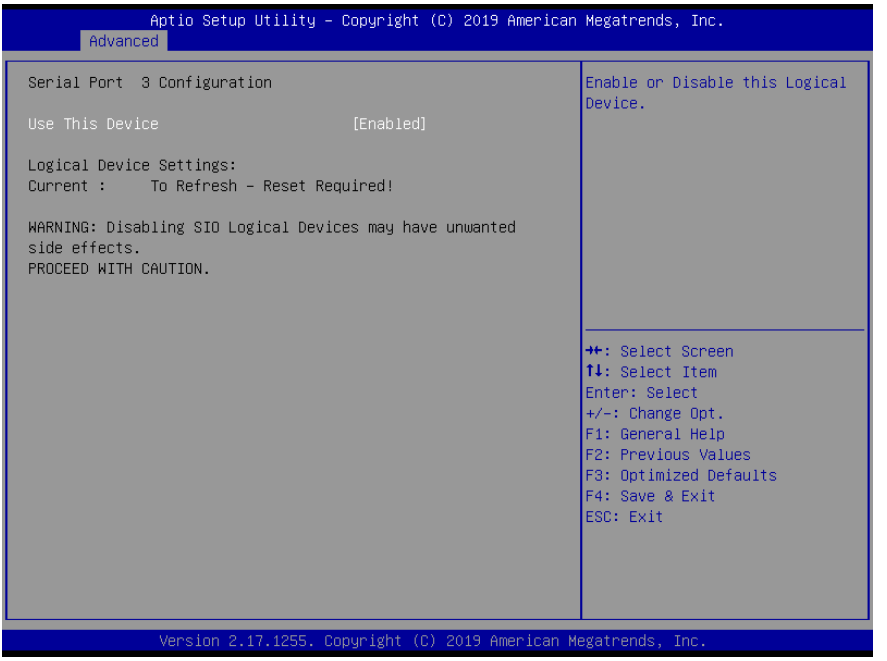
Options Summary		
Use This Device	Disabled	
	Enabled	Optimal Default
Enable or Disable this Logical Device.		
Possible:	Use Automatic Settings	Optimal Default
	IO=2F8h; IRQ=3;	
	IO=3F8h; IRQ=4;	
Allows user to change Device's Resource settings. New settings will be reflected on This Setup Page after System restarts.		
Mode:	RS232	Optimal Default
	RS422	
	RS485	
UART RS232, 422, 485 selection		

3.4.4.2 SIO Configuration: Serial Port 2 Configuration



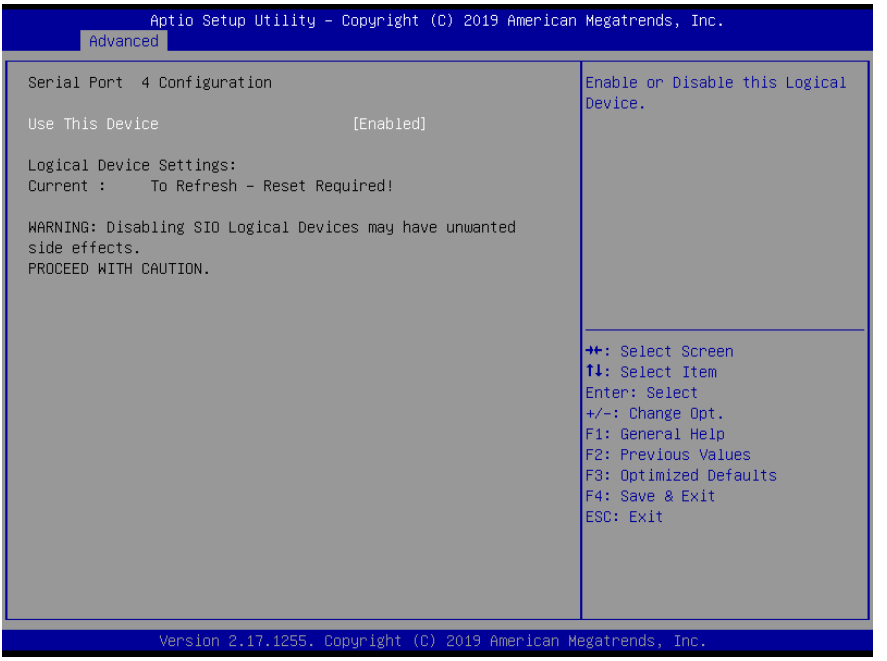
Options Summary		
Use This Device	Disabled	
	Enabled	Optimal Default
Enable or Disable this Logical Device.		
Possible:	Use Automatic Settings	Optimal Default
	IO=2F8h; IRQ=3;	
	IO=3F8h; IRQ=4;	
Allows user to change Device's Resource settings. New settings will be reflected on This Setup Page after System restarts.		
Mode:	RS232	Optimal Default
	RS422	
	RS485	
UART RS232, 422, 485 selection		

3.4.4.3 SIO Configuration: Serial Port 3 Configuration



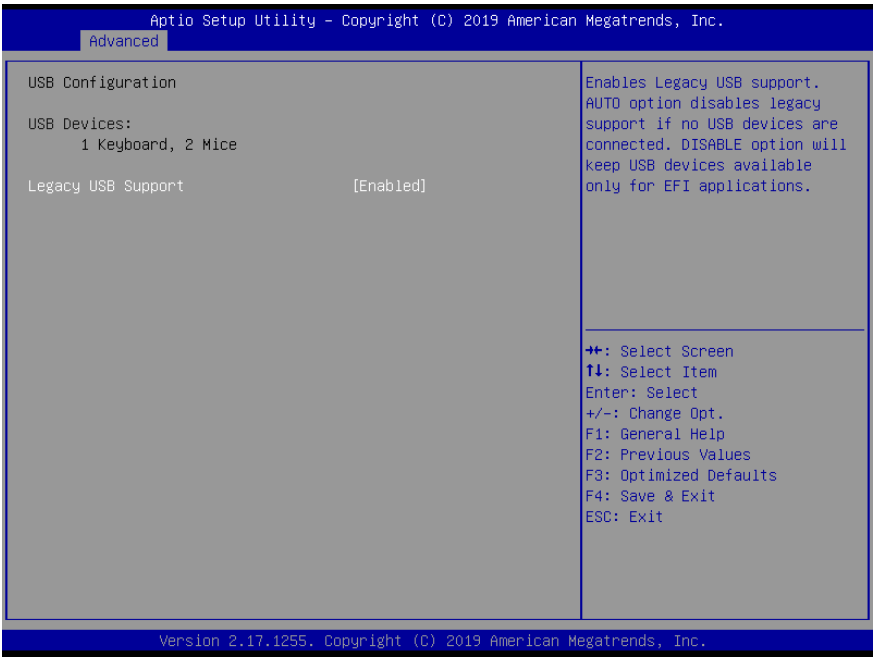
Options Summary		
Use This Device	Disabled	
	Enabled	Optimal Default
Enable or Disable this Logical Device.		

3.4.4.4 SIO Configuration: Serial Port 4 Configuration



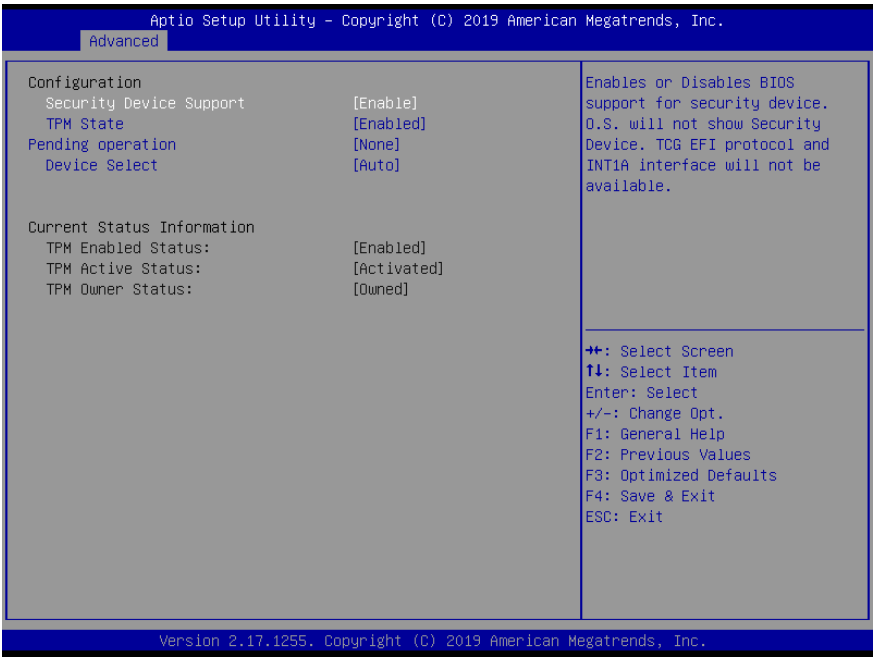
Options Summary		
Use This Device	Disabled	
	Enabled	Optimal Default
Enable or Disable this Logical Device.		

3.4.5 Advanced: USB Configuration



Options Summary		
Legacy USB Support	Enabled	Optimal Default
	Disabled	
	Auto	
Enables Legacy USB support. AUTO option disables legacy support if no USB devices are connected. DISABLE option will keep USB devices available only for EFI applications.		

3.4.6 Advanced: Trusted Computing

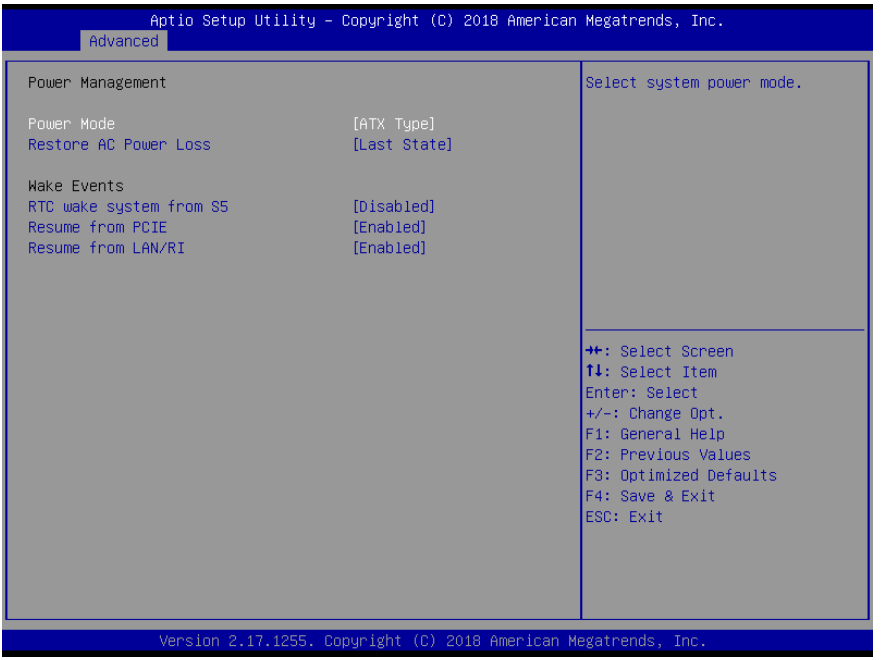


Options Summary		
Security Device Support	Enable	Optimal Default
	Disable	
Enables or Disables BIOS support for security device. OS will not show Security Device. TCG EFI protocol and INT1A interface will not be available.		
TPM State	Enable	Optimal Default
	Disable	
Enables or Disables security device. **Note**: Your Computer will reboot during restart in order to change State of the Device.		
Pending operation	None	Optimal Default
	TPM Clear	
Schedule an Operation for the Security Device. **Note**: Your computer will reboot during restart in order to change State of Security Device.		

Table Continues on Next Page

Options Summary		
Device Select	TPM 1.0	
	TPM 2.0	
	Auto	Optimal Default
TPM 1.2 will restrict support to TPM1.2 devices, TPM 2.0 will restrict support to TPM 2.0 devices, Auto will support both with the default set to TPM2.0 devices if not found, TPM.2 devices will be enumerated.		

3.4.7 Advanced: Power Management



Options Summary		
Power Mode	ATX Type	Optimal Default
	AT Type	
Select power supply mode.		
Restore AC Power Loss	Last State	Optimal Default
	Power On	
	Power Off	
Select power state when power is re-applied after a power failure.		
RTC wake system from S5	Disabled	Optimal Default
	Fixed Time	
	Dynamic Time	
Fixed Time: System will wake on the hr::min::sec specified./n Dynamic Time: System will wake on the current time + Increase minute(s)		
Resume from PCIE	Enabled	Optimal Default
	Disabled	
Enable/Disable Resume from PCIE		

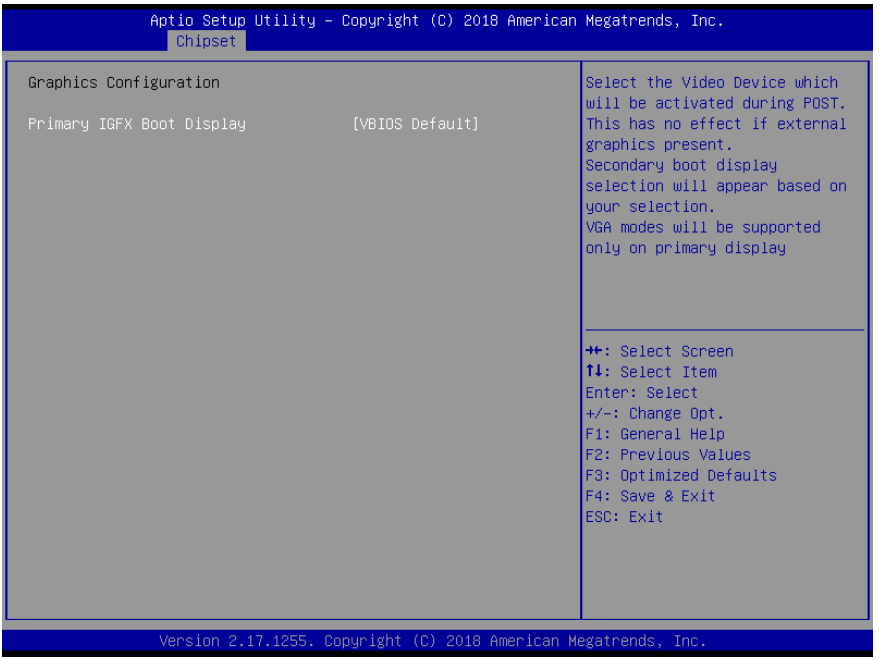
Options Summary		
Resume from LAN/RI	Enabled Disabled	Optimal Default
Enable/Disable Resume from LAN/RI		

3.5 Setup submenu: Chipset

3.5.1 Chipset: System Agent (SA) Configuration

Options Summary		
Max TOLUD	Dynamic	Optimal Default
	1 GB	
	1.25 GB	
	1.5 GB	
	1.75 GB	
	2 GB	
	2.25 GB	
	2.5 GB	
	2.75 GB	
	3 GB	
Maximum Value of TOLUD (Top of Low Usable DRAM)\nDynamic assignment would adjust TOLUD automatically based on largest MMIO length of installed graphic controller.\nChanging this value may cause side effect, if reserved memory is lesser than MMIO required. This happens often when GfX device with large MMIO requirement.		

3.5.1.1 System Agent (SA) Configuration: Graphics Configuration

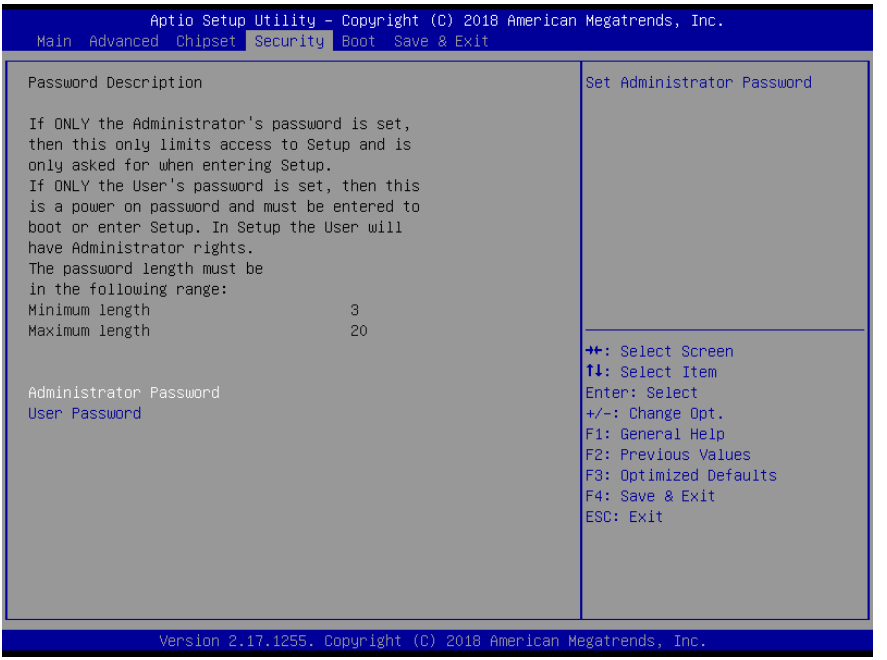


Options Summary		
Primary IGFX Boot Display	VBIOS default	Optimal Default
	HDMI	
	LVDS	
Select the Video Device which will be activated during POST. This has no effect if external graphics present. Secondary boot display selection will appear based on your selection. VGA modes will be supported only on primary display		

3.5.2 Chipset: PCH-IO Configuration

Options Summary		
HD Audio	Disabled	
	Enabled	Optimal Default
Control Detection of the HD-Audio device. Disabled = HDA will be unconditionally disabled Enabled = HDA will be unconditionally enabled Auto = HDA will be enabled if present, disabled otherwise.		

3.6 Setup submenu: Security



Change User/Administrator Password

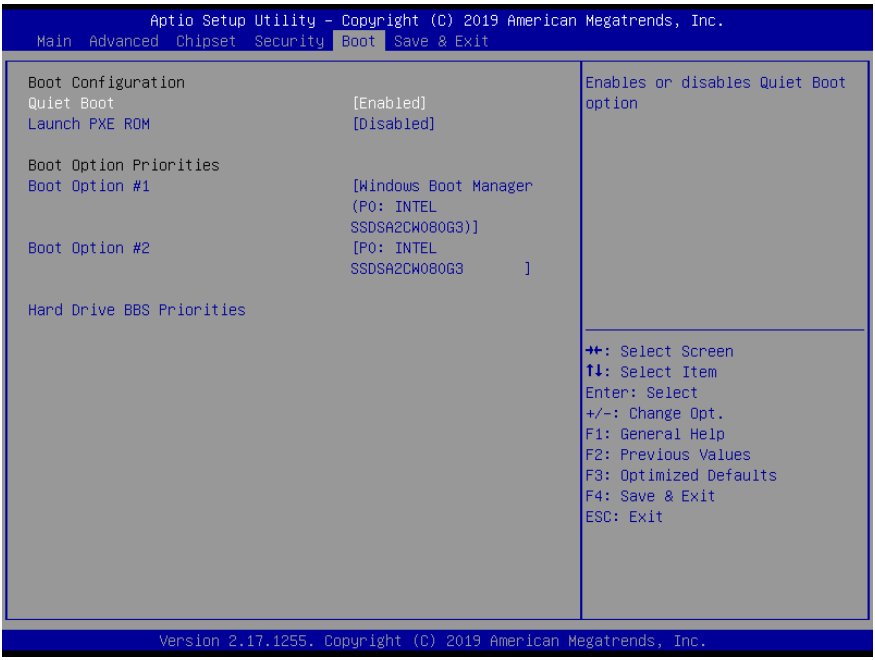
You can set an Administrator Password or User Password. An Administrator Password must be set before you can set a User Password. The password will be required during boot up, or when the user enters the Setup utility. A User Password does not provide access to many of the features in the Setup utility.

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.

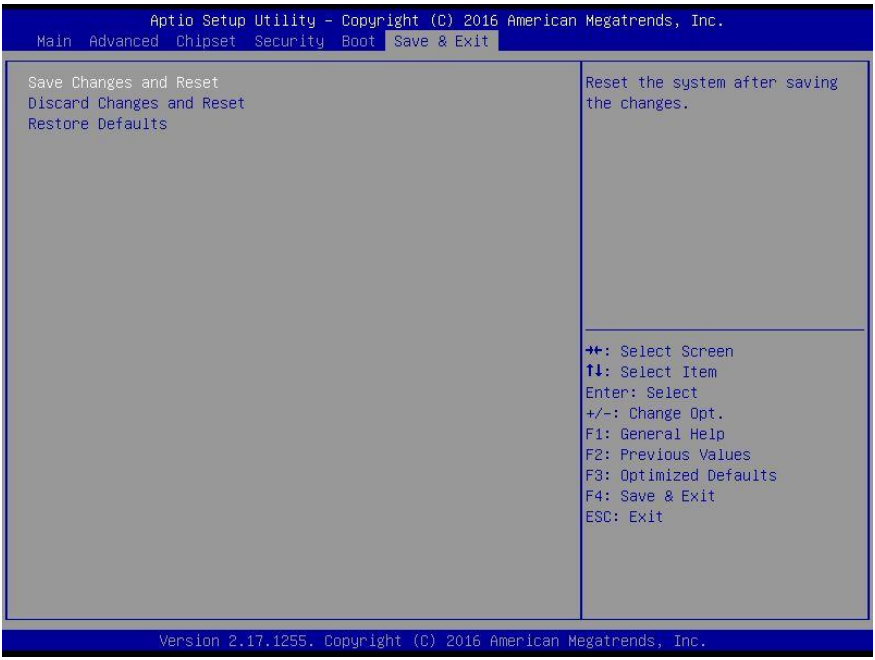
3.7 Setup submenu: Boot



Options Summary		
Quiet Boot	Disabled	
	Enabled	Optimal Default
Enables or disables Quiet Boot option.		
Launch PXE OpROM	Disabled	Optimal Default
	Enabled	
Controls the execution of UEFI and Legacy PXE OpROM.		

3.7.1 Boot: BBS Priorities

3.8 Setup submenu: Save & Exit



Chapter 4

OS Flash guide

4.1 Introduction to this Section

Chapter 4 details the steps of how to load an OS image onto the BOXER-8320AI using the Clonezilla Restore tool. Before you start, make sure you have two USB storage devices (thumb drive) with the appropriate amount of free space. It is also recommended that you download and install a bootable USB drive creator tool such as Rufus before you begin.

4.2 Create Clonezilla-live USB

Step 1 Download the Clonezilla-live ISO file from the Clonezilla official website at: https://clonezilla.org/downloads.php

Step 2 Attach one USB device to your computer and run a bootable USB drive creator tool, i.e. Rufus.

Step 3 Find and select the Clonezilla-live ISO file from the file location.

Step 4 Click "Start" to build the Clonezilla-live USB drive.

Step 5 Select "Write in ISO Image mode" and click OK.

Step 6 Once the process is complete, click "Close". Be sure to properly eject your USB device before you disconnect it from the computer to prevent damaging the device.

4.3 Create Image USB

Step 1 Download the image folder from the official AAEON website at:
https://www.aaeon.com/en/p/intel-ai-solution-myriad-x-embedded-box-pc-boxer-8320ai

Step 2 Connect the second USB device.

Step 3 Format the USB device to the FAT32 file system.

Step 4 Copy the image folder onto the USB device. Safely remove the USB device.

4.4 Restore System with Image File

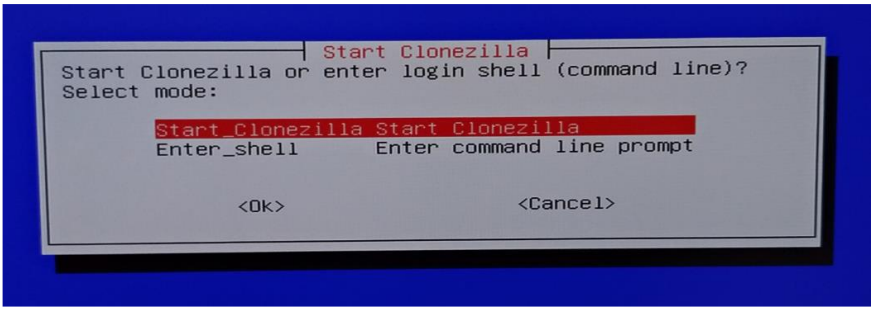
Step 1 Attach both the Clonezilla-live USB and Image USB devices to the BOXER-8320AI.

Step 2 Boot from the Clonezilla-live USB.

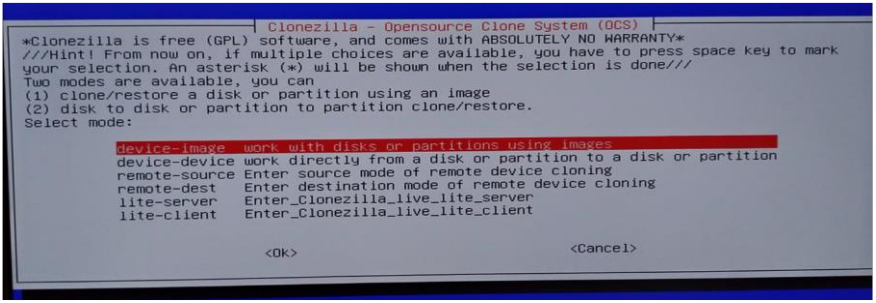
Step 3 Choose Clonezilla-live (Default settings, VGA 800x600).

Step 4 Choose "eh_US.UTF-8 English".

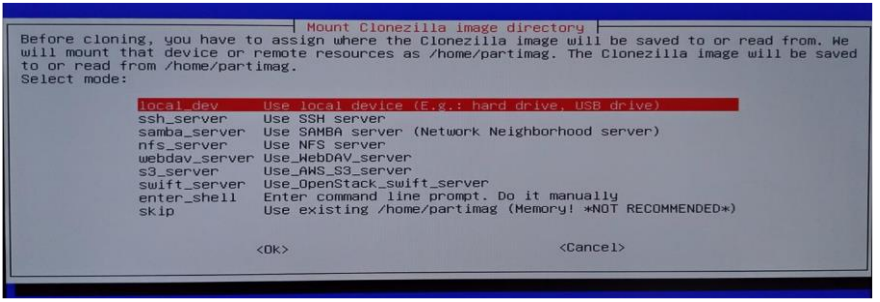
Step 5 Choose "Start_Clonezilla Start Clonezilla".



Step 6 Choose "device-image work with disks or partitions using images".



Step 7 Choose "Use local device (E.g.: hard drive, USB drive)".

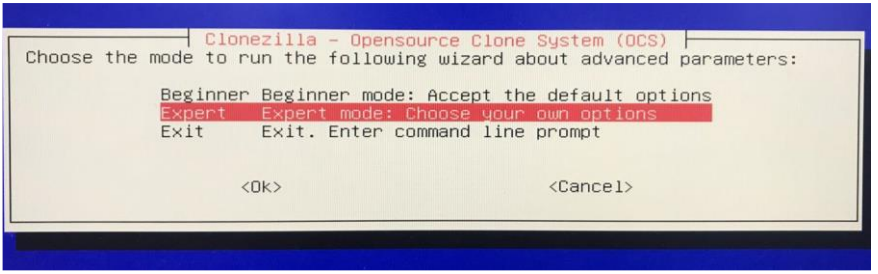


Step 8 The system will detect available disks on the system. Press Ctrl-C to continue.

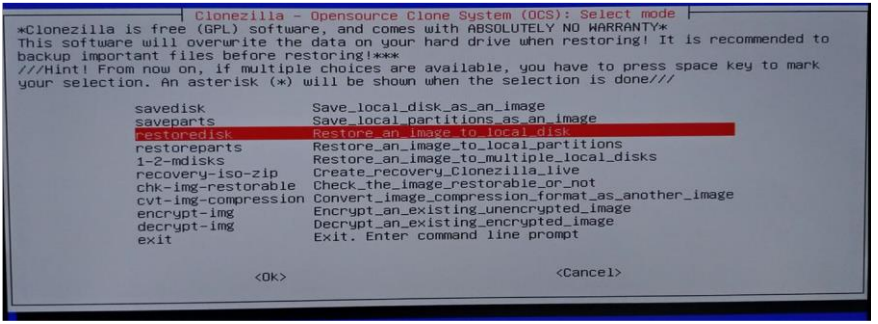
Step 9 Choose the Image USB device.

Step 10 Check "have existing image file", and use Tab button to choose "Done".

Step 11 Choose "Expert mode: Choose your own options".



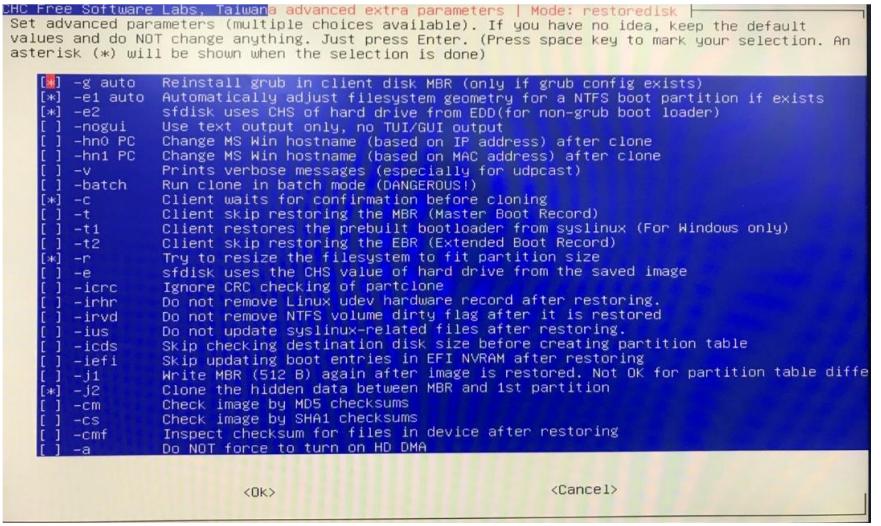
Step 12 Choose "Restore_an_image_to_local_disk".



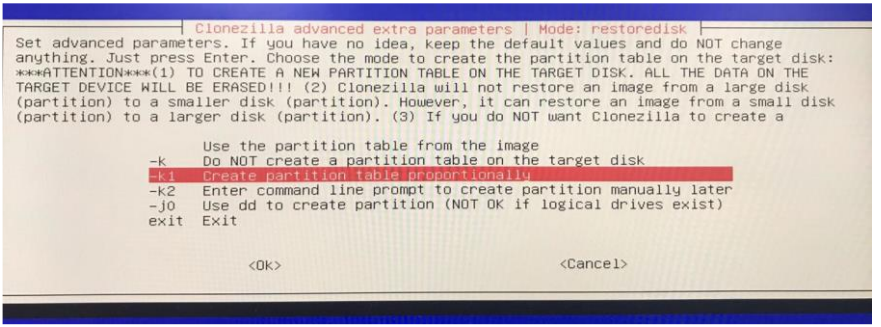
Step 13 Choose the image file.

Step 14 Choose the option to restore disk.

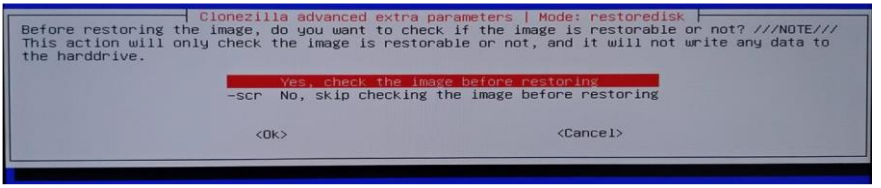
Step 15 Use Tab to select "OK" to use default parameters.



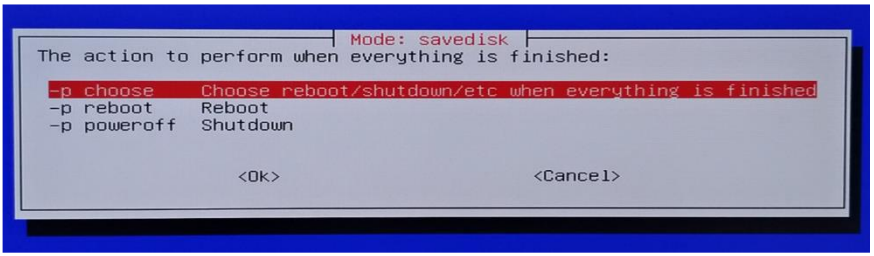
Step 16 Choose "Create partition table proportionally".



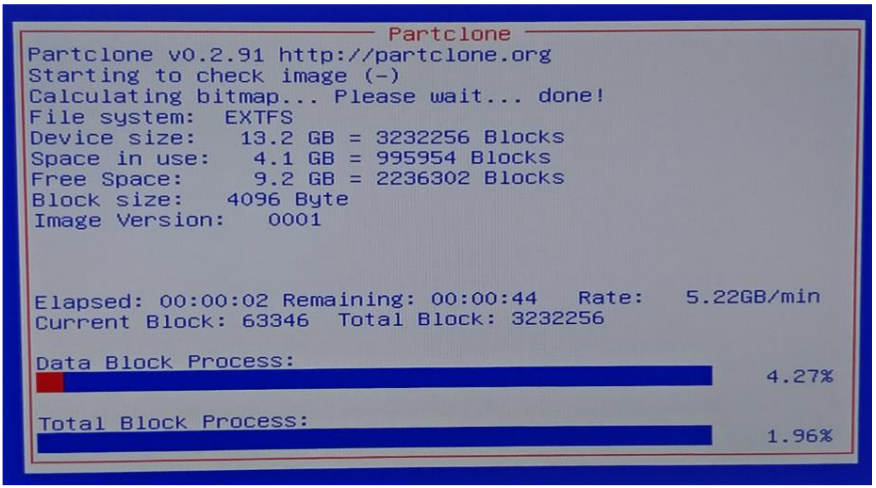
Step 17 Choose "Yes, check the image before restoring"



Step 18 Choose which action to perform when everything is finished.

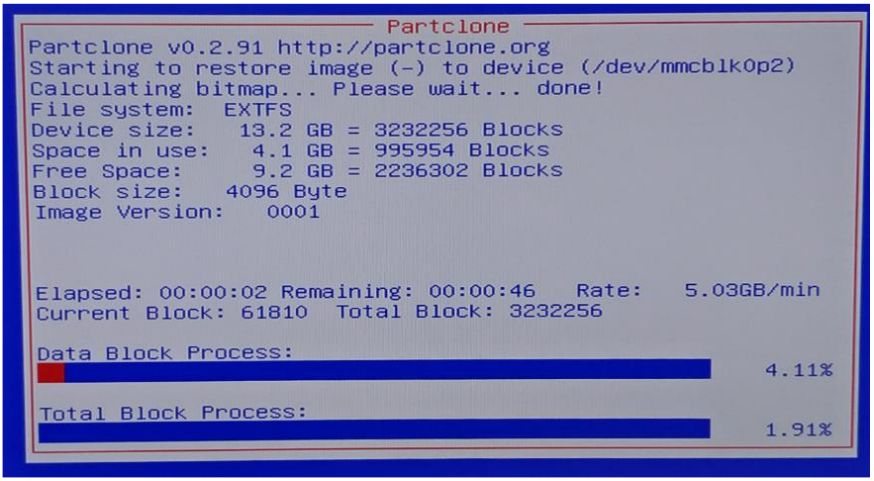


Step 19 The system will check the image file. This may take a few moments.



Step 20 Apply to restore image.

Step 21 The system will now restore the image. This may take a few moments.



Step 22 Select "Reboot" to finish disk restoration.