

Version 1.0 Revision Date: July. 05, 2017



MIL-STD Rugged Computer





Safety information

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Make sure that your power supply is set to the correct voltage in your area.
- If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your local distributor.

Operation safety

- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter any technical problems with the product, contact your local distributor

Statement

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Revision History

Revision	Date (yyyy/mm/dd)	Changes
V1.0	2017/07/05	Initial release

Packing list

THOR200 MIL-STD Rugged Computer

XR-DIMM up to 16 GB RAM *optional*

Accessories Kit

Cable Kits optional

CD (Driver + User's Manual)



If any of the above items is damaged or missing, please contact your local distributor.

Ordering information

Model Number	Description	
THOR200	Intel [®] Broadwell MILSTD IP65 Rugged System with Core™ i7-5650U Processor,	
	NVIDIA GT730M GPU, Amphenol M12 Connectors,	
	9V to 36V DC-in, Wide Temp40 to 70°C	



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Chapter 1: Product Introduction

1.1 Key Features

Π

System			
CPU	Intel [®] Core™ i7 Broadwell , BGA type Core i7-5650U (2C x 2.2/3.1 GHz), 4M Cache (15W)		
	Intel® 1210-IT & 1218-LM GbE		
Ethernet Chipset	NOTICE: If you need hot plug function, please disable ULP function of I218-LM.		
	"ULP Disable.pdf" file could be found in LAN folder of Driver CD.		
Memory	2 x DDR3L 1600 XR-DIMM up to 16 GB		
Expansion Slot	2 x mPCle (1 with mSATA supported)		
	Onboard uSSD SATAIII 64 GB		
Storage Device	1 x 2.5" HDD/SSD Slot		
	1 x mSATA		
Front I/O			
Power Button	Power Button with LED backlight		
X1 (M12 12 pin A-code)	RS232/422/485 COM port		
X2 (M12 12 pin A-code)	VGA		
X3 (M12 8 pin A-code)	Intel I218-LM GbE LAN		
X4 (M12 8 pin A-code)	Intel I210-IT GbE LAN		
X5 (M12 8 pin A-code)	2 x USB2.0		
Rear I/O			
DC-IN (M12 4 pin S-code)	1		
Ground Screw	1		
Display			
GPU	NVIDIA GT730M		
Display Interface	VGA		
Mechanical & Environment			
Power Requirements	9V to 36V DC-in, AT/ATX mode supports with power delay on/off		
	Power consumption : Under 60 Watt while system fully loading		
Dimension	220 x 56 x 380 mm		
(W x H x D)	(8.66" x 2.20" x 14.96")		
Weight	7.5 kgs		
Operating Temp.	-40 to 70°C (ambient with air flow)		
Storage Temp.	-40 to 85°C		
Relative Humidity	5% to 95%, non-condensing		
Serial Interface & Signals			
Serial Standards	1x RS-232/422/485 port, mode could be selected in BIOS		
RS-232	TxD, RxD, DTR, DSR, RTS, CTS, DCD, GND		
RS-422	TxD+, TxD-, RxD+, RxD-, GND		
RS-485-4w	TxD+, TxD-, RxD+, RxD-, GND		
RS-485-2w	Data+, Data-, GND		
Standards and Certifications			
MIL-STD-810G Test			
Method 507.5, Procedure II (Temperature & Humidity)		



Method 514.6, Procedure I (Category 20 & 24, Vibration)		
Method 516.6, Procedure I (M	Mechanical Shock)	
Method 501.5, Procedure I (S	Storage/High Temperature)	
Method 501.5, Procedure II (Operation/High Temperature)		
Method 502.5, Procedure I (Storage/Low Temperature)		
Method 502.5, Procedure II (Operation/Low Temperature)		
Method 503.5, Procedure I (Temperature shock)		
EMC	CE and FCC compliance	
Green Product	RoHS, WEEE compliance	

Specifications are subject to change without notice



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1.2 Mechanical Dimensions





Chapter 2: Jumpers and Connectors

2.1 Connector Pin Definitions

X1: COM1: RS232/422/485 with 5V/12V selectable RS232/422/485 mode could be changed in BIOS setting.

Pin	RS-232	RS-422	RS-485	
	(Delault)			
1	DCD	TX-	D-	2 3 44
2	RXD	TX+	D+	10 00 4
3	TXD	RX+		10000
4	DTR	RX-		9 0 0 0 5
5	GND			12 0 6
6	DSR			8 7
7	RTS			Socket 12-pos
8	CTS			50cket, 12-pos.
9	RI (Default)			
10				
11				
12				

X2: VGA

	LAN	
PIN	DEFINITION	
1	RED	
2	R Ground	10 2 3 11
3	GREEN	No 0/4
4	G Ground	10000
5	BLUE	9\0_0_0/8
6	B Ground	12 0 0 %
7	H-Sync	8 7 0
8	Ground	
9	V-Sync	Socket, 12-pos.
10	Ground	
11	DDC DATA	
12	DDC LOCK	

X3: Intel I218-LM X4: Intel I210-IT

	LAN	
PIN	DEFINITION	5
1	D1+	4 0 0 0
2	D1-	70 0
3	D2+	
4	D2-	
5	D3+	2 1
6	D3-	Socket, 8-pos.,
7	D4+	A-coded
8	D4-	



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X5: 2 x USB2.0

USB2.0		2.0	
PIN	DEFINIT	ION	
1		VCC	5
2		D-	4 6 ° 0 6
3	O2BT	D+	$\left(\circ \circ \right)$
4		Gound	3 8 77
5		VCC	
6	11000	D-	Socket 9 per
7	USBZ	D+	A-coded
8		Gound	Acoucu

DC IN: DC Input

PIN	DEFINITION	
1	+	
2	NA	
3	-	
4	Ground	2



Chapter 3: AMI BIOS UTILITY

This chapter provides users with detailed descriptions on how to set up a basic system configuration through the AMI BIOS setup utility.

3.1 Starting

To enter the setup screens, perform the following steps:

- Turn on the computer and press the key immediately.
- After the key is pressed, the main BIOS setup menu displays. Other setup screens can be accessed from the main BIOS setup menu, such as the Chipset and Power menus.

3.2 Navigation Keys

The BIOS setup/utility uses a key-based navigation system called hot keys. Most of the BIOS setup utility hot keys can be used at any time during the setup navigation process.

Some of the hot keys are <F1>, <F10>, <Enter>, <ESC>, and <Arrow> keys.



Some of the navigation keys may differ from one screen to another.

Left/Right	The Left and Right <arrow> keys moves the cursor to select a menu.</arrow>
Up/Down	The Up and Down <arrow> keys moves the cursor to select a setup</arrow>
	screen or sub-screen.
+– Plus/Minus	The Plus and Minus < Arrow> keys changes the field value of a
	particular setup setting.
Tab	The <tab> key selects the setup fields.</tab>
F3	The <f3> key load optimized defaults.</f3>
F4	The <f4> key saves any changes made and exits the BIOS setup</f4>
	utility.
Esc	The <esc> key discards any changes made and exits the BIOS setup</esc>
	utility.
Enter	The <enter> key displays a sub-screen or changes a selected or</enter>
	highlighted option in each menu.



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3.3 Main Menu

The Main menu is the first screen that you will see when you enter the BIOS Setup Utility.

Aptio Setup Utility - Main Advanced Chipset Security	- Copyright (C) 2017 American Boot Save & Exit	Megatrends, Inc.
BIOS Information BIOS Vendor Core Version Compliancy Project Version Build Date and Time	American Megatrends 5.011 UEFI 2.4; PI 1.3 5638I 0.08 x64 03/03/2017 10:40:03	Choose the system default language
Processor Information Name Brand String Frequency Number of Processors Microcode Revision	Broadwell ULT Intel(R) Core(TM) i7 3100 MHz 2Core(s) / 4Thread(s) 23	
GT Info Total Memory	GT3 (600 MHz) 4096 MB (DDR3)	↔: Select Screen ↑↓: Select Item Enter: Select
Memory Frequency	1600 Mhz	+/−: Change Opt. F1: General Help
PCH Information Name PCH SKU Stepping LAN PHY Revision	WildcatPoint-LP Premium SKU(BDW-U) 03/B2 B1	F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
ME FW Version	10.0.36.1030	
Vapaian 0 47 4054 5	Convertent (C) 2017 Amonteon M	latataanda Taa

Aptio Setup Main Advanced Chipset	Utility – Copyright (C) 2017 Americar Security Boot Save & Exit	n Megatrends, Inc.
Processor Information Name Brand String Frequency Number of Processors Microcode Revision GT Info Total Memory Memory Frequency PCH Information	Broadwell ULT Intel(R) Core(TM) i7 3100 MHz 2Core(s) / 4Thread(s) 23 GT3 (600 MHz) 4096 MB (DDR3) 1600 Mhz	Choose the system default language
Name PCH SKU Stepping LAN PHY Revision ME FW Version ME Firmware SKU System Language	WildcatPoint-LP Premium SKU(BDW-U) 03/B2 B1 10.0.36.1030 SMB [English]	<pre>++: Select Screen f↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
System Date System Time	[Mon 03/13/2017] [12:50:11]	



3.4 Advanced Menu

The Advanced Menu allows you to configure your system for basic operation. Some entries are defaults required by the system board, while others, if enabled, will improve the performance of your system or let you set some features according to your preference. <u>Setting incorrect field values may cause the system to</u> <u>malfunction</u>.

Aptio Setup Utility – Copyright (C) 2017 America Main Advanced Chipset Security Boot Save & Exit	an Megatrends, Inc.
 CPU Configuration Trusted Computing ACPI Settings AMT Configuration IT8786 Super ID Configuration Hardware Monitor F81216SEC Super ID Configuration SATA Configuration USB Configuration USB Configuration Intel(R) Ethernet Connection (3) I218-LM - 88:88:88:88:87:88 Intel(R) I210 Gigabit Network Connection - F8:78:62:00: 	CPU Configuration Parameters ++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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3.4.1 CPU Configuration

This page allows you to configure CPU menu.

Aptio Setup Utility Advanced	– Copyright (C) 2017 America	n Megatrends, Inc.
CPU Configuration		▲ Enabled for Windows XP and Linux (OS optimized for
Intel(R) Core(TM) i7-5650U CPU @ 2	2.20GHz	Hyper-Threading Technology)
CPU Signature	306d4	and Disabled for other OS (OS
Microcode Patch	23	not optimized for
Max CPU Speed	2200 MHz	Hyper-Threading Technology).
Min CPU Speed	500 MHz	When Disabled only one thread
CPU Speed	3100 MHz	per enabled core is enabled.
Processor Cores	2	
Intel HT Technology	Supported	
Intel VT–x Technology	Supported	
Intel SMX Technology	Supported	
64-bit	Supported	
EIST Technology	Supported	++: Select Screen
CPU C3 state	Supported	T↓: Select Item
CPU C6 state	Supported	Enter: Select
CPU C7 state	Supported	+/-: Change Opt.
		F1: General Help
L1 Data Cache	32 KB X 2	F2: Previous Values
L1 Code Cache	32 KB X 2	F3: Uptimized Defaults
L2 Cache	256 KB X 2	F4: Save & EXIT
L3 Cache	4 MB	ESU: EXIT
L4 Cache	Not Present	
Hyper-threading	[Enabled]	₩

Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc. Advanced Enabled for Windows XP and Microcode Patch 23 2200 MHz Linux (OS optimized for Max CPU Speed Min CPU Speed 500 MHz Hyper-Threading Technology) 3100 MHz and Disabled for other OS (OS CPU Speed Processor Cores 2 not optimized for Intel HT Technology Supported Hyper-Threading Technology). Intel VT-× Technology Supported When Disabled only one thread Intel SMX Technology Supported per enabled core is enabled. 64-bit Supported EIST Technology Supported CPU C3 state Supported CPU C6 state Supported CPU C7 state Supported ↔+: Select Screen L1 Data Cache 32 kB x 2 ↑↓: Select Item 32 KB × 2 L1 Code Cache Enter: Select +/-: Change Opt. L2 Cache 256 kB × 2 L3 Cache 4 MB F1: General Help L4 Cache Not Present F2: Previous Values F3: Optimized Defaults F4: Save & Exit Active Processor Cores [A11] ESC: Exit Limit CPUID Maximum [Disabled] [Enabled] EIST Turbo Mode [Enabled]

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3.4.2 Trust Computing

Configuration [Enable] Enables or Disables BIOS ND Security Device Found [Enable] Support for security device. ND Security Device Found [Enable] Device. TGG EFI protocol and INTIA interface will not be available. ++: Select Screen 14: Select Item Entry Device Values F2: Previous Values F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	Aptio Setup Utility - Advanced	- Copyright (C) 2017 Americar	n Megatrends, Inc.
	Advanced Configuration Security Device Support NO Security Device Found	[Enable]	Enables or Disables BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available. ++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.17.1254, Copyright (C) 2017 American Megatrends, Inc.	Version 2,17,1254	Copyright (C) 2017 American M	Megatrends, Inc.

3.4.3 ACPI Setting

Aptio Setup Utility Advanced	– Copyright (C) 2017 Americ	an Megatrends, Inc.
ACPI Settings		Enables or Disables BIOS ACPI Auto Configuration.
Enable ACPI Auto Configuration	[Disabled]	
Enable Hibernation ACPI Sleep State	[Enabled] [S3 (Suspend to RAM)]	
		++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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3.4.4 AMT Setting

Aptio Setup Utility - Advanced	Copyright (C) 2017 American	Megatrends, Inc.
Intel AMT BIOS Hotkey Pressed MEBx Selection Screen Hide Un-Configure ME Confirmation MEBx Debug Message Output Un-Configure ME Amt Wait Timer Disable ME ASF Activate Remote Assistance Process USB Configure PET Progress AMT CIRA Timeout WatchDog OS Timer BIOS Timer	[Enabled] [Disabled] [Disabled] [Disabled] [Disabled] [Disabled] [Enabled] [Enabled] [Enabled] [Enabled] 0 [Disabled] 0 0 0	Enable/Disable Intel (R) Active Management Technology BIOS Extension. Note : iAMT H/W is always enabled. This option just controls the BIOS extension execution. If enabled, this requires additional firmware in the SPI device ++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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3.4.5 IT8786 Super IO Configuration

Aptio Setup Utility Advanced	– Copyright (C) 2017 f	American Megatrends, Inc.
IT8786 Super IO Configuration		Set Parameters of Serial Port
Super IO Chip > Serial Port 1 Configuration > Serial Port 2 Configuration > Serial Port 3 Configuration > Serial Port 4 Configuration	IT8786	I (Goin)
		++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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3.4.5.1 Serial Port 1 Configuration

Aptio Setup Utility - Advanced	Copyright (C) 2017 American	Megatrends, Inc.
Serial Port 1 Configuration		Enable or Disable Serial Port
Serial Port Device Settings	[Enabled] IO=3F8h; IRQ=4;	(001)
Change Settings	[IO=3F8h; IRQ=4;]	
Device Mode Select Termination Setting UART SLEW RATE	[RS232] [Disab1ed] [250Kbps]	
		<pre>++: Select Screen f↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
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3.4.5.2 Serial Port 2 Configuration

Aptio Setup Utility - Advanced	Copyright (C) 2017 American	Megatrends, Inc.
Serial Port 2 Configuration		Enable or Disable Serial Port
Serial Port Device Settings	[Enabled] IO=2F8h; IRQ=3;	(600)
Change Settings	[IO=2F8h; IRQ=3;]	
		++: Select Screen ↑↓: Select Item
		Enter: Select +/-: Change Opt.
		F1: General Help F2: Previous Values
		F3: Optimized Defaults
		F4: Save & Exit ESC: Exit
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3.4.5.3 Serial Port 3 Configuration

Aptio Setup Utility - Advanced	- Copyright (C) 2017 Americar	Megatrends, Inc.
Serial Port 3 Configuration		Enable or Disable Serial Port
Serial Port Device Settings	[Enabled] IO=3E8h; IRQ=6;	(600)
Change Settings	[IO=3E8h; IRQ=6;]	
		Enter: Select +/-: Change Opt.
		F1: General Help F2: Previous Values F3: Optimized Defaults
		F4: Save & Exit ESC: Exit
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3.4.5.4 Serial Port 4 Configuration

Advanced	
Serial Port 4 Configuration	Enable or Disable Serial Port (COM)
Serial Port [Ena Device Settings IO=2	d] ; IRQ=7;
Change Settings [IO=	h; IRQ=7;]
	++: Select Screen ↑↓: Select Item
	Enter: Select +/-: Change Opt. E1: General Help
	F2: Previous Values F3: Optimized Defaults
	F4: Save & Exit ESC: Exit
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3.4.6 Hardware Monitor

Aptio Setup Utilit Advanced	y – Copyright (C) 2017 America	an Megatrends, Inc.
Pc Health Status		
CPU temperature System temperature CPUFan Speed Vcore DDR +12V +5V +3.3V	: +43 H : +33 H : N/A : +1.824 V : +1.380 V : +11.880 V : +5.032 V : +3.336 V	<pre>++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.17.1254	. Copyright (C) 2017 American	Megatrends, Inc.

3.4.7 F81216SEC Super IO Configuration

* To use this function should stacked with SK303.

Aptio Setup Utility - Advanced	Copyright (C) 2017 American	Megatrends, Inc.
F81216SEC Super IO Configuration		Set Parameters of Serial Port
<pre>Super IO Chip • Serial Port 1 Configuration • Serial Port 2 Configuration • Serial Port 3 Configuration • Serial Port 4 Configuration</pre>	F81216SEC	<pre>1 (COMA) ++: Select Screen ↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
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3.4.8 SATA Configuration

Aptio Setup Utility - Advanced	Copyright (C) 2017 American	Megatrends, Inc.
SATA Controller(s) SATA Mode Selection	[Enabled] [AHCI]	Enable or disable SATA Device.
Port O Serial ATA Port O	[Enabled] 64GB SATA Flas (64.0GB)	
Port 1 Serial ATA Port 1	[Enabled] Empty	
Port 2 Serial ATA Port 2	[Enabled] Empty	
Port 3 Serial ATA Port 3	[Enabled] Empty	<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.17.1254. Co	pyright (C) 2017 American M	egatrends, Inc.

3.4.9 USB Configuration

Aptio Setup Utility - Advanced	Copyright (C) 2017 American	Megatrends, Inc.
USB Configuration		Enables Legacy USB support.
USB Module Version	11	support if no USB devices are connected. DISABLE option will
USB Controllers: 1 EHCI, 1 XHCI USB Devices: 1 Keyboard, 1 Hub		keep USB devices available only for EFI applications.
Legacy USB Support	[Enabled]	
EHCI Hand-off	[Enabled]	
USB hardware delays and time-outs: Device reset time-out	[20 sec]	<pre>++: Select Screen 1↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
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3.4.10 Intel I218-LM Ethernet Controller

Aptio Setup Utility - Advanced	Copyright (C) 2017 American	Megatrends, Inc.
Advanced PORT CONFIGURATION MENU NIC Configuration Blink LEDS PORT CONFIGURATION INFORMATION UEFI Driver: Adapter PBA: Chip Type PCI Device ID PCI Address Link Status MAC Address	0 Intel(R) PRO/1000 6.1 FFFFFF-OFF Intel PCH LPT 15A2 00:19:00 [Disconnected] 88:88:88:88:87:88	<pre>Megatrends, Inc. Click to configure the network device port. ++: Select Screen t4: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Vanaion 0 47 4254 - 6	opuniskt (C) 2017 Arenicen M	

3.4.10.1 NIC Configuration

Aptio Setup Utility - Advanced	– Copyright (C) 2017 American	Megatrends, Inc.
Advanced PORT CONFIGURATION MENU NIC Configuration Blink LEDS PORT CONFIGURATION INFORMATION UEFI Driver: Adapter PBA: Chip Type PCI Device ID PCI Address Link Status MAC Address Virtual MAC Address	0 Intel(R) PRO/1000 6.1 001300-000 Intel i210 1533 08:00:00 [Disconnected] F8:7B:62:00:3E:5F F8:7B:62:00:3E:5F	Click to configure the network device port. ++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2 17 1254	Conucidat (C) 2017 American M	legatrends Inc



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3.4.11 Intel I210-IT Ethernet Controller

Aptio Setup Utility - Advanced	Copyright (C) 2017 American	Megatrends, Inc.
PORT CONFIGURATION MENU NIC Configuration Blink LEDS PORT CONFIGURATION INFORMATION UEFI Driver: Adapter PBA: Chip Type PCI Device ID PCI Address Link Status MAC Address Virtual MAC Address	0 Intel(R) PRD/1000 6.1 001300-000 Intel 1210 1533 08:00:00 [Disconnected] F8:7B:62:00:3E:5F F8:7B:62:00:3E:5F	Click to configure the network device port. →+: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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3.4.11.1 NIC Configuration

Aptio Setup Advanced	Utility – Copyright (C) 2017 Ameri	can Megatrends, Inc.
Link Speed Wake On LAN	[Auto Negotiated] [Enabled]	Specifies the port speed used for the selected boot protocol.
		<pre>++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.:	17.1254. Copyright (C) 2017 America	n Megatrends, Inc.



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3.5 Chipset Menu

Aptio Setup Utility Main Advanced Chipset Security	Copyright (C) 2017 American Megatrends, Inc. Boot – Save & Exit
 System Agent (SA) Configuration PCH-ID Configuration 	System Agent (SA) Parameters ++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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3.5.1 System Agent (SA) Configuration

Aptio Setup Chipset	Utility – Copyright (C) 2017 Amer.	ican Megatrends, Inc.
System Agent Bridge Name System Agent RC Version VT-d Capability	Broadwell 2.9.1.0 Supported	Check to enable VT–d function on MCH.
VT-d	[Enabled]	
 ▶ Graphics Configuration ▶ Memory Configuration 		
		<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
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3.5.1.1 Graphics Configuration

Aptio Setup U Chipset	ility – Copyright (C) 2017:	American Megatrends, Inc.
Graphics Configuration IGFX VBIOS Version IGf× Frequency Primary Display Internal Graphics DVMT Total Gf× Mem ► LCD Control	1039 600 MHz [Auto] [Auto] [256M]	Select which of IGFX/PEG/PCI Graphics device should be Primary Display Or select SG for Switchable Gfx.
	Primary Display Auto IGFX PCIE	<pre>++: Select Screen 1J: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.17	1254, Conuright (C) 2017 A	merican Megatrends, Inc.

3.5.1.1.1 LCD Control

Aptio Setup Utility – Chipset	Copyright (C) 2017 America	n Megatrends, Inc.
LCD Control Primary IGFX Boot Display Backlight Control	[DP1+DP2] [PWM Normal]	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 ++: Select Screen 11 : Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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3.5.1.2 Memory Configuration

Aptio Setup Utility - Chipset	- Copyright (C) 2017 American	Megatrends, Inc.
Memory Information		
Memory RC Version Memory Frequency Total Memory Memory Voltage DIMM#0 DIMM#2	2.9.1.0 1600 Mhz 4096 MB (DDR3) 1.35v 4096 MB (DDR3) Not Present	<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
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3.5.2 PCH-IO Configuration

Aptio Setup Utility - Chipset	Copyright (C) 2017 American	Megatrends, Inc.
Intel PCH RC Version Intel PCH SKU Name Intel PCH Rev ID	2.9.1.0 Premium SKU(BDW-U) 03/B2	PCH Azalia Configuration settings.
 PCH Azalia Configuration BIOS Security Configuration 		
Restore AC Power Loss Wake on LAN(1218)	[Power On] [Enabled]	
		<pre>++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
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3.5.2.1 PCH Azalia Configuration

Aptio Setup Util Chipset	ity – Copyright (C) 2017 Am	merican Megatrends, Inc.
PCH Azalia Configuration		Control Detection of the
Azalia	[Enabled]	Azalia device. Disabled = Azalia will be unconditionally disabled Enabled = Azalia will be unconditionally Enabled Auto = Azalia will be enabled if present, disabled otherwise. ++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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3.5.2.2 BIOS Security Configuration

	Aptio Setup Utility – Copyr Chipset	ght (C) 2017 Ameri	can Megatrends, Inc.
BIOS Security	Configuration		Enable or disable bytes
RTC Lock	[Ena	led]	38n-3rn in the upper and lower 128-byte bank of RTC RAM lockdown.
			<pre>++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
	Version 2.17.1254. Copyrig	t (C) 2017 America	n Megatrends, Inc.



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3.5.2.3 Restore AC Power Loss



3.5.2.4 Wake on LAN (1218)

Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc. Chipset		
Intel PCH RC Version Intel PCH SKU Name Intel PCH Rev ID	2.9.1.0 Premium SKU(BDW-U) 03/B2	Select AC power state when power is re-applied after a power failure.
 PCH Azalia Configuration BIOS Security Configuration 		
Restore AC Power Loss Wake on LAN(i218)	[Power On] [Enabled]	
	Restore AC Power Loss — Power Off Power On Last State	<pre>+: Select Screen 4: Select Item nter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
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3.6 Security Menu

Use the Security Menu to establish system passwords

Aptio Setup Utility – Main Advanced Chipset <mark>Security</mark>	Copyright (C) 2017 American Boot Save & Exit	Megatrends, Inc.
Password Description If ONLY the Administrator's password then this only limits access to Setu only asked for when entering Setup. If ONLY the User's password is set, is a power on password and must be a boot or enter Setup. In Setup the Us have Administrator rights. The password length must be in the following range: Minimum length Maximum length Administrator Password User Password	d is set, up and is then this entered to ser will 3 20	Set Administrator Password ++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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Administrator Password

Set administrator password.

User Password

Set user Password.



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3.7 Boot Menu

This section is used to configure the boot features.

Aptio Setup Utility – Main Advanced Chipset Security	Copyright (C) 2017 American Boot Save & Exit	Megatrends, Inc.
Boot Configuration Setup Prompt Timeout Bootup NumLock State	1 [0n]	Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.
Quiet Boot Fast Boot	[Disabled] [Disabled]	
Network	[Disabled]	
Boot Option Priorities Boot Option #1	[PO: 64GB SATA Flash]	
Hard Drive BBS Priorities		<pre> ++: Select Screen tl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.17.1254. Copyright (C) 2017 American Megatrends, Inc.		

3.7.1 Boot Option

Aptio Setup Utility	– Copyright (C) 2017 American Boot	Megatrends, Inc.
Boot Option #1	[PO: 646B SATA Flash]	<pre>Sets the system boot order ++: Select Screen f↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values S2: Setimize the setem the</pre>
Version 2 17 1254	Conuright (C) 2017 American M	F3: Uptimized Defaults F4: Save & Exit ESC: Exit



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3.8 Save & Exit

Aptio Setup Utility – Copyright (C) 2017 Amer. Main Advanced Chipset Security Boot Save & Exit	ican Megatrends, Inc.
Save Changes and Exit Discard Changes and Exit Save Changes and Reset Discard Changes and Reset	Exit system setup after saving the changes.
Save Options Save Changes Discard Changes	
Restore Defaults Save as User Defaults Restore User Defaults	
Boot Overnide PO: 64GB SATA Flash Drive	<pre>++: Select Screen f↓: Select Item Enter: Select</pre>
Launch EFI Shell from filesystem device	+/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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Aptio Setup Utility – Copyright (C) 2017 American Main Advanced Chipset Security Boot <mark>Save & Exit</mark>	Megatrends, Inc.
Save Changes and Exit Discard Changes and Exit Save Changes and Reset Discard Changes and Reset Save Options Save Changes Discard Changes Restore Defaults Save as User Defaults Restore User Defaults	Attempts to Launch EFI Shell application (Shell.efi) from one of the available filesystem devices
Boot Override PO: 64GB SATA Flash Drive Launch EFI Shell from filesystem device	<pre> ++: Select Screen f↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
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