# HPM-621DE

Intel® Xeon® Scalable Processors / Intel® Xeon® Scalable Processors up to 150W TDP

## **User's Manual**

6<sup>th</sup> Ed –16 February 2023

Part No: E2047PM2105R

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- 5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

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# **1. Getting Started**

## **1.1 Safety Precautions**

#### Warning!



Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

#### Caution!



Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

## **1.2 Packing List**

Before you begin installing your single board, please make sure that the following materials have been shipped:

- 1 x HPM-621DE motherboard
- 1 x I/O Shield



If any of the above items is damaged or missing, contact your retailer.

## 1.3 Document Amendment History

Revision	Date	Ву	Comment
1 <sup>st</sup>	September 2020	Avalue	Initial Release
2 <sup>nd</sup>	December 2020	Avalue	Update 2.2 Jumper and Connector Lis
3 <sup>rd</sup>	July 2021	Avalue	Update 2.3 Setting Jumpers & Connectors
4 <sup>th</sup>	October 2021	Avalue	Update 2.3 Setting Jumpers & Connectors
5 <sup>th</sup>	April 2022	Avalue	Update 2.3 Setting Jumpers & Connectors
6 <sup>th</sup>	February 2023	Avalue	Update 1.5 System Specifications

## **1.4 Manual Objectives**

This manual describes in details Avalue Technology HPM-621DE Single Board.

We have tried to include as much information as possible but we have not duplicated information that is provided in the standard IBM Technical References, unless it proved to be necessary to aid in the understanding of this board.

We strongly recommend that you study this manual carefully before attempting to set up HPM-621DE or change the standard configurations. Whilst all the necessary information is available in this manual we would recommend that unless you are confident, you contact your supplier for guidance.

Please be aware that it is possible to create configurations within the CMOS RAM that make booting impossible. If this should happen, clear the CMOS settings, (see the description of the Jumper Settings for details).

If you have any suggestions or find any errors regarding this manual and want to inform us of these, please contact our Customer Service department with the relevant details.

## 1.5 System Specifications

System									
0011	Supports dual 2nd Gen. Intel® Xeon® Scalable Processors / Intel® Xeon®								
CPU	Scalable Processors up to 150W TDP								
BIOS	AMI UEF	AMI UEFI BIOS							
System Chipset	Intel C62	1 Chipset							
	12 x DDR	4 2933/2666/2	2400/21	33 RDIMM	I/LRDIMN	1 up to 1.5	ТВ		
			DIMM Capacity (GB)		Speed (MT/s); Voltage (V); Slots per Channel (SPC) & DIMMs per Channel (DPC)				
	Туре	Ranks Per DIMM and Data Width				1 Slot per Channel	2 Slots pe	r Channel	
			4CF2	DRAM Density	y Training	1 DPC	1DPC	son® (V); DIMMs per Channel 2DPC 1.2V 2666 Quivalent)	
	RDIMM	SRx8	4GB <sup>2</sup>	8GD 8GB		1.2V	1.2V	1.2V	
System Memory	RDIMM	SRx4	8GB	16GB	32GB				
	RDIMM	DRx8 DRx4		32GB	32GB 64GB				
		QRx4	N/A	2H-64GB	2H-128GB				
	RDIMM 3DS	8Rx4 nG	N/A	4H-128GB	4H-256GB	2933 <sup>3</sup>	2933 <sup>3</sup>	2666	
	LRDIMM	QRx4	32GB	64GB	128GB				
	LRDIMM	QRx4	N/A	2H-64GB	2H-128GB				
	3DS	8Rx4	N/A	4H-128GB	4H-256GB				
	<sup>1</sup> 16Gb DRAM der <sup>2</sup> 4Gb DRAM dens	isity based DIMMs are suppo ity is only supported on spe	orted on Cascad eds up to 2666	e Lake only (not avail MT/s	able on Skylake-SF	2)			
	3 2933 MT/S TDP	L is available on Cascade La	ke Platinum 82x	x and Gold 62xx Seri	es SKUs only				
Watchdog Timor	System re	eset event							
watchuog miler	0~6553 second.								
	Temperature.								
	Fan.								
H/W Status	Voltage.								
Monitor	Case open. (1 x 2.5mm pitch Box Wafer, Pinrex 753-71-02TW07 or equivalent)								
	Please refer to note 1 for more information.								
RAID	Intel C62	1 software RA	ID 0,1,5	,10					
ТРМ	TPM 2.0 (	onboard							
Other	IPMI 2.0 v	with AST 2500	BMC c	ontroller or	nboard.				
Expansion Slot									
	4 x PCIe x16 slots, 2 x PCIe x8 slots								
	Slot 1, PC	Cle 3.0 x16 fro	m CPU1	l					
	Slot 3, PC	Cle 3.0 x16 fro	m CPU1	l					
PCle	Slot 4, PC	Cle 3.0 x16 fro	m CPU2	2					
	Slot 5, PC	Cle 3.0 x16 fro	m CPU2	2					
	Slot 6, PC	Cle 3.0 x8 from	n CPU1						
Slot 7, PCIe 3.0 x8 from CPU1 (Slot 7 is the slot closest to CPU)									
PCI	Slot 2, PC	Slot 2, PCI 3.0 slot							
Storage									

Ma	1 x M.2 M-Key PCIe 3.0 x4 NVMe SSD						
IVI.Z	2242/2260/2280 form factor						
SATA	10 x SA	TA III Support	ts up to 6	.0 Gb/s			
Oculink	4 x OCu	Link ports fro	m CPU 2				
Edge I/O		·					
LAN	4 x RJ4	5 (LAN1 share	e IPMI po	rt)			
	4 x USF	3 2 Gen1					
	+ X 000	0.2 0011					
	$ 2 \times RS2 $	232 ports (2 x 2	2.0mm pr	tch Box He	ader, CKM 2008WVS	-10-AA or	
СОМ	equivale	ent)					
	Pin defi	nition: Follow	Avalue st	andard.			
	2 x USE	3 2.0 ports (1)	USB 2.0	) 2.54mm p	oitch Box Header)		
	Din dofi						
						1	
	VCC		Pin 1	Pin 2	VCC		
USB 2.0	USB0-		Pin 3	Pin 4	USB1-		
	USB0-	F	Pin 5	Pin 6	USB1+		
	GND		Pin 7	Pin 8	GND		
	Kev		Pin 9	Pin 10	No Connection	-	
			1				
	2 X USE	3.2 Gent po	rts (1 x 2.	umm pitch	Box Header, Pinrex 5	2X-8020GB52 0f	
	equivalent)						
	Pin definition :						
			Key				
	1	~ ~	10				
			+ Over				
		Current Protection					
	Vbus	GND GND					
	Pin No.	Signal			Description	7	
	1	Vbus	Powe	r	7		
	2	IntA_P1_SSRX-	USB3	ICC Port1 Sup			
USB 3.1	3	IntA_P1_SSRX+	USB3	USB3 ICC Port1 SuperSpeed Rx+		_	
	5 IntA P1 SSTX-		USB3	ICC Port1 Sup			
	6	6 IntA_P1_SSTX+		USB3 ICC Port1 SuperSpeed Tx+			
	7	GND	GND		(1000 0) ID 1		
	8	IntA_P1_D-	USB3	USB3 ICC Port1 D- (USB2 Signal D-)		_	
	10	9 IIIIX I USB3 ICC Port1 D+ (USB2 Signal D+)   10 ID Over Current Protection		on			
	11	IntA_P2_D+	USB3	ICC Port2 D+	(USB2 Signal D+)		
	12	IntA_P2_D-	USB3	ICC Port2 D-	(USB2 Signal D-)	_	
	13	IntA P2 SSTX+	GND USB3	UCC Port2 Sup	erSpeed Tx+	_	
	15	IntA_P2_SSTX-	USB3	ICC Port2 Sup	er Speed Tx-	-1	
	16	GND	GND				
	17	IntA_P2_SSRX+	USB3	ICC Port2 Sup	erSpeed Rx+	_	
	18	Vbus	Powe	r oc Port2 Sup	егореец кх-	-1	
		1	1.0.00			<b></b>	
CPU/System	2 x 4 Pi	n CPU Fan He	eader (4 F	Pin PWM)			

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FAN	5 x 4 Pin Chassis Fan Header (4 Pin PWM)						
Buzzer	1 x onboard buzzer						
	1 x front panel connector (2.54 mm Pitch)						
	Pin	Function	Pin	Function			
	1-3	HDD LED	2-4	POWER LED			
Front Panel	5-7	RESET BUTTON	6-8	POWER BUTTON			
	9-11	STATUS LED	10-12	LAN1 ACT LED			
	13-15	UID LED	14-16	STBY POWER LED			
	17-19	UID BUTTON	18-20	LAN2-X ACT LED			
RTC Battery	1 x Horizontal So	cket Type CMOS Bat	ttery Holder wit	th CR2450			
Clear CMOS	1 x Clear CMOS	header (1 x 2.0 mm p	itch Header)				
HD Audio	1 x HD Audio Hea	ader (2.0mm pitch he	ader)				
Display							
<b>Graphic Chipset</b>	1 x VGA port (1 x	2.0mm pitch Box He	ader, CKM 200	8WV-16-BK-HF or equiv	alent)		
	AST2500 BMC co	ontroller					
Spec. &	1020 × 1200@60						
Resolution	1920 x 1200@80	пz эгорр					
Ethernet							
LAN Chipset	4 x Intel I210AT						
LAN Spec.	1 Gigabit Ethernet Controller						
Mechanical &							
Environmental							
Power	1 x Std. 24 pin ATX Connector						
Requirement	2 x 8 Pin SSI 12V	Connectors					
ACPI	Yes						
Power Mode	H/W: ATX power well design only						
	BMC: AT (Default)						
Operating Temp.	0 °C to 60 °C						
Storage Temp.	-40 °C to 85 °C						
Operating	40°C 95% non-condensing						
Humidity							
Size (L x W)							
(Please consult product							
engineers for the	EATX form factor feasibility if 12" x 13" (304 8mm x 330 2mm)						
production feasibility if							
the size is larger than		· · · · · · · · · · · · · · · · · · ·					
410x360mm or smaller							
than 80x70mm)							
Weight	1.81 kg						

	Follow Avalue standard test.			
	Random Vibration Operation			
	1 Test PSD : 0.00454G²/Hz , 1.5 Grms			
	2 System condition : operation mode			
	3 Test frequency : 5~500 Hz			
	4 Test axis : X,Y and Z axis			
	5 Test time : 30 minutes per each axis			
	6 IEC60068-2-64 Test Fh			
	6 Storage : mSATA			
	Random vibration test (Non-operation)			
	1 PSD: 0.00808G <sup>2</sup> /Hz , 2.0 Grms			
Vibration Test	2 Non-Operation mode			
	3 Test Frequency : 5-500Hz			
	4 Test Axis: X,Y and Z axis			
	5 30 min. per each axis			
	6 IEC 60068-2-64 Test:Fh			
	Package Vibration Test <sup>.</sup>			
	1 Test PSD : $0.026G^2/Hz$ , 2.16 Grms			
	2 Test frequency : 5~500 Hz			
	3 Test axis : X,Y and Z axis			
	4 Test time : 30 minutes per each axis			
	5 IEC 60068-2-64 Test Fh			
	Follow Avalue standard test.			
	Reference ISTA 2A, Method : IEC-60068-2-32 Test:Ed			
	Test Ea : Drop Test			
Drop Test	1 Test phase : One corner, three edges, six faces			
	2 Test high : 96.5cm			
	3 Package weight : 5Kg			
	4 Test drawing			
	Windows : Windows 10 IOT Enterprise, Windows server 2016,			
<b>OS Information</b>	Windows server 2019			
	Linux : Ubuntu 18.04			



**Note:** Specifications are subject to change without notice.

## 1.6 Architecture Overview—Block Diagram

The following block diagram shows the architecture and main components of HPM-621DE.



# 2. Hardware Configuration

#### 2.1 Product Overview



## 2.2 Jumper and Connector List

You can configure your board to match the needs of your application by setting jumpers. A jumper is the simplest kind of electric switch.

It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To "close" a jumper you connect the pins with the clip. To "open" a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2, and 3. In this case, you would connect either two pins.



The jumper settings are schematically depicted in this manual as follows:

0 0		1 2 3 O
Open	Closed	Closed 2-3

A pair of needle-nose pliers may be helpful when working with jumpers.

Connectors on the board are linked to external devices such as hard disk drives, a keyboard, or floppy drives. In addition, the board has a number of jumpers that allow you to configure your system to suit your application.

If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any changes.

Jumpers		
Label	Function	Note
JME_RCVR1	ME Firmware Recovery	3 x 1 header, pitch 2.00mm
JME1	Flash Descriptor Security override	3 x 1 header, pitch 2.00mm
JBMC_DB1	BMC strap setting	4 x 2 header, pitch 2.00mm
JCMOS1	Clear CMOS	3 x 1 header, pitch 2.00mm
IRMC DST1	CPLD strap setting for BMC	2 x 1 boador, pitch 2 00mm
	Present or not	

The following tables list the function of each of the board's jumpers and connectors.

Connectors						
Label	Function	Note				
SYS_FAN1	System fan connector 1	4 x 1 wafer, pitch 2.54mm				
SYS_FAN2	System fan connector 2	4 x 1 wafer, pitch 2.54mm				
SYS_FAN3	System fan connector 3	4 x 1 wafer, pitch 2.54mm				

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SYS_FAN4	System fan connector 4	4 x 1 wafer, pitch 2.54mm
CPU1_FAN1	CPU fan connector 1	4 x 1 wafer, pitch 2.54mm
CPU2_FAN1	CPU fan connector 2	4 x 1 wafer, pitch 2.54mm
HDD_FAN1	HDD fan connector	4 x 1 wafer, pitch 2.54mm
JCOM1	Serial Port 1 connector	5 x 2 wafer, pitch 2.00mm
JCOM2	Serial Port 2 connector	5 x 2 wafer, pitch 2.00mm
JSGPIO1	Serial General purpose I/O connector 1	3 x 2 wafer, pitch 2.00mm
JSGPIO2	Serial General purpose I/O connector 2	3 x 2 wafer, pitch 2.00mm
PCIE1	PCIe 3.0 x16 from CPU1	
PCIE3	PCIe 3.0 x16 from CPU1	
PCIE4	PCIe 3.0 x16 from CPU2	
PCIE5	PCIe 3.0 x16 from CPU2	
PCIE6	PCIe 3.0 x8 from CPU1	
PCIE7	PCIe 3.0 x8 from CPU1 (Slot 7 is the slot closest to CPU)	
PCIE12V1	PCIE 12V power connector	2 x 2 wafer, pitch 4,20mm
PCI2	PCI 3.0 connector	<u> </u>
JFP1	Front Panel connector	10 x 2 wafer, pitch 2.54mm
	2 x USB3.2 Gen1 connector	
JUSB12L1	1 x RJ-45 Ethernet (LAN1 Share	
	IPMI Port)	
JUSB34L2	2 x USB3.2 Gen1 connector 1 x RJ-45 Ethernet	
LAN34	2 x RJ-45 Ethernet	
JUSB1	USB3.2 Gen1 connector	10 x 2 wafer, pitch 2.00mm
JUSB2	USB2.0 connector	5 x 2 wafer, pitch 2.54mm
JHD-AUDIO1	Audio connector	5 x 2 header, pitch 2.00mm
JSPI1	SPI connector	4 x 2 header, pitch 2.00mm
SATA1-8	8 x Serial ATA connector	·
SSATA1/2	2 x Second Serial ATA connector	
DIMM1-12	12 x DDR4 DIMM socket	DIMM1~6: CPU1 Support DIMM7~12:CPU2 Support
JVGA1	VGA connector	8 x 2 wafer, pitch 2.00mm
JBMC_UART1	For BMC debug message read	4 x 1 header, pitch 2.54mm
JCASE_OPEN1	CASEOPEN connector	2 x 1 wafer, pitch 2.50mm

#### HPM-621DE User's Manual **ATX12V1** ATX 12V power connector 1 4 x 2 wafer, pitch 4.20mm **ATX12V2** ATX 12V power connector 2 4 x 2 wafer, pitch 4.20mm ATXPWR1 ATX power connector 12 x 2 wafer, pitch 4.20mm PMBUS1 Power supply PMBus connector 5 x 1 wafer, pitch 2.54mm INLET\_SER1 Inlet Thermal Sensors connector 4 x 1 wafer, pitch 2.00mm OUTLET\_SER1 **Outlet Thermal Sensors connector** 4 x 1 wafer, pitch 2.00mm HDD Backplane thermal Sensors 5 x 1 wafer, pitch 2.00mm HDD\_SER1 connector **OCU1-4** 4 x OCuLink ports from CPU 2 NGFF1 M.2 M-Key PCIe 3.0 x4 NVMe SSD **RAID KEY connector** RAID\_KEY1 4x 1 header, pitch 2.00mm One CPU shall install on CPU1 socket and DIMM1 to DIMM 6 CPU1 socket CPU1 socket shall be installed at least one memory module before booting the motherboard. **CPU2 socket** CPU2 socket

## 2.3 Setting Jumpers & Connectors

2.3.1 ME Firmware Recovery (JME\_RCVR1)



Normal\*



#### **ME FORCE UPDATE**



\* Default



Override disable\*



**-**3

\* Default

2.3.2 Flash Descriptor Security override (JME1)

## 2.3.3 BMC strap setting (JBMC\_DB1)



\* Default

#### **ENABLE PASS-THRU AT POWER ON\***



#### ENABLE DEDICATED VGA BIOS ROM

	7
	1

**BMC SOC Level reset** 

		7
		1
Ч	Ч	1

**BMC Chip Level reset** 

	7
	1

2.3.4 Clear CMOS (JCMOS1)



Normal\*



## **Clear RTC REGISTERS**



\* Default

## 2.3.5 CPLD strap setting for BMC Present or not (JBMC\_PST1)



**BMC Present\*** 

	1

Non BMC



\* Default

## 2.3.6 Audio connector (JHD-AUDIO1)



	1		2	
Ρ	IN	F	PIN	
9				
1				]

Signal	PIN	PIN	Signal
+3.3V	1	2	GND
AUD_AZA_SYNC_R	3	4	AUD_AZA_BCLK_R
AUD_AZA_SDO_R	5	6	AUD_AZA_SDI0
AUD_AZA_SDI1	7	8	AUD_AZA_RST_R_N
+5VSB	9	10	GND

## 2.3.7 CPLD JTAG header (JCPLD\_JTAG1)



1	
9	

Signal	PIN	PIN	Signal
JTAG_TCK_CONN	1	2	CPLD_JTAG_MUX_CTL
JTAG_TDO_CONN	3	4	+3.3VSB
JTAG_TMS_CONN	5	6	NC
NC	7	8	NC
JTAG_TDI_CONN	9	10	GND



2.3.8 System fan connector 1 (SYS\_FAN1)



Signal	PIN
GND	1
+12V	2
FAN_TACH2	3
SYS_PWM1	4

2.3.9 System fan connector 2 (SYS\_FAN2)





Signal	PIN
GND	1
+12V	2
FAN_TACH3	3
SYS_PWM2	4



## 2.3.10 System fan connector 3 (SYS\_FAN3)



Signal	PIN
GND	1
+12V	2
FAN_TACH4	3
SYS_PWM3	4

## 2.3.11 System fan connector 4 (SYS\_FAN4)



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	Ш	•

Signal	PIN
GND	1
+12V	2
FAN_TACH6	3
SYS_PWM4	4



2.3.12 CPU fan connector 1 (CPU1\_FAN1)



Signal	PIN
GND	1
+12V	2
FAN_TACH0	3
CPU1_PWM0	4

2.3.13 CPU fan connector 2 (CPU2\_FAN1)





Signal	PIN
GND	1
+12V	2
FAN_TACH1	3
CPU2_PWM1	4



## 2.3.14 HDD fan connector (HDD\_FAN1)



Signal	PIN
GND	1
+12V	2
FAN_TACH5	3
HDD_PWM1	4

2.3.15 SPI connector (JSPI1)



	7
	1

Signal	PIN	PIN	Signal
SPI_PCH_FLASH_IO2	8	7	SPI_PCH_FLASH_IO3
SPI_BIOS_CS0_N_R	6	5	SPI_BIOS_MISO_FLASH
SPI_BIOS_FLASH_CLK	4	3	SPI_BIOS_CS0_N_R
GND	2	1	+3.3VSB



## 2.3.16 Serial port 1 connector (JCOM1)



Signal	PIN	PIN	Signal
COM_RI#1	9	10	NC
COM_RTS#1	7	8	COM_CTS#1
GND	5	6	COM_DSR#1
COM_TXD1	3	4	COM_DTR#1
COM_DCD#1	1	2	COM_RXD1

## 2.3.17 Serial port 2 connector (JCOM2)





Signal	PIN	PIN	Signal
COM_RI#2	9	10	NC
COM_RTS#2	7	8	COM_CTS#2
GND	5	6	COM_DSR#2
COM_TXD2	3	4	COM_DTR#2
COM_DCD#2	1	2	COM_RXD2

## 2.3.18 Serial General purpose I/O connector 1 (JSGPIO1)





Signal	PIN	PIN	Signal
GND	2	1	GND
SGPIO_SSATA_DATA0_R	4	3	SGPIO_SSATA_LOAD_R
SGPIO_SSATA_DATA1_R	6	5	SGPIO_SSATA_CLOCK_R

## 2.3.19 Serial General purpose I/O connector 2 (JSGPIO2)



F		 7
	8	1
l	д	
	0	5
L		

Signal	PIN	PIN	Signal
GND	2	1	GND
SGPIO_SATA_DATA0_R	4	3	SGPIO_SATA_LOAD_R
SGPIO_SATA_DATA1_R	6	5	SGPIO_SATA_CLOCK_R



## 2.3.20 ATX 12V Power connector 1 (ATX12V1)



Signal	PIN	PIN	Signal
GND	4	8	+12V
GND	3	7	+12V
GND	2	6	+12V
GND	1	5	+12V

2.3.21 ATX 12V Power connector 2 (ATX12V2)





Signal	PIN	PIN	Signal
GND	4	8	+12V
GND	3	7	+12V
GND	2	6	+12V
GND	1	5	+12V

## 2.3.22 ATX Power connector (ATXPWR1)

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Signal	PIN	PIN	Signal
+3.3V	12	24	GND
+12V	11	23	+5V
+12V	10	22	+5V
+5VSB	9	21	+5V
PWRGD_PS_PWROK_R	8	20	NC
GND	7	19	GND
+5V	6	18	GND
GND	5	17	GND
+5V	4	16	FM_PS_EN_PSU_N
GND	3	15	GND
+3.3V	2	14	-12V
+3.3V	1	13	+3.3V

## 2.3.23 Power supply PMBus connector (PMBUS1)





Signal	PIN
PSU_z_SCL	1
PSU_z_SDA	2
PSU1_ALERT_z_N	3
GND	4
NC	5

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## 2.3.24 USB3.2 Gen1 connector (JUSB1)



1							10	
•	:		•	:	•	:	d	
1	9						11	

Signal	PIN	PIN	Signal
		1	+5VSB
+5VSB	19	2	USB3_z_RN5
USB3_z_RN6	18	3	USB3_z_RP5
USB3_z_RP6	17	4	GND
GND	16	5	USB3_z_TN5
USB3_z_TN6	15	6	USB3_z_TP5
USB3_z_TP6	14	7	GND
GND	13	8	USB3_z_PN5
USB3_z_PN6	12	9	USB3_z_PP5
USB3_z_PP6	11	10	USB_a_OC2#

## 2.3.25 USB2.0 connector (JUSB2)





Signal	PIN	PIN	Signal
NC	10		
GND	8	7	GND
USB_z_PP8	6	5	USB_z_PP7
USB_z_PN8	4	3	USB_z_PN7
+5VSB	2	1	+5VSB

## 2.3.26 Front Panel connector (JFP1)



	<u> </u>		<sup>2</sup>
Signal	PIN	PIN	Signal
HDD_LED_P	1	2	+3.3VSB
HDD_LED_N	3	4	PWRLED_N
FP_RST_BTN_N	5	6	FP_PWR_BTN_N_R
GND	7	8	GND
STATUS_LED_P	9	10	LAN1_FRONT_LED_ACT_p
STATUS_LED_N	11	12	LAN1_LED_ACT_n
FRONT_UID_LED_N	13	14	SBPWRLED_P
FRONT_UID_LED_P	15	16	GND
FP_UID_BTN_N_R	17	18	+3.3VSB
GND	19	20	LAN_LED_ACT#

19

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1

## 2.3.27 PCIE 12V power connector (PCIE12V1)



#### Note:

In case the high power consumption PCIe cards are installed, the PCIE12V1 connector support to supply extra 12 volt power from PSU to ensure all PCIe cards work properly.



Signal	PIN	PIN	Signal
+12V	4	3	+12V
GND	2	1	GND



## 2.3.28 Inlet Thermal Sensors connector (INLET\_SER1)



Signal				
+3.3VSB	1			
SMB1_TEMPSENSOR_STBY_LVC3_SDA	2			
SMB1_TEMPSENSOR_STBY_LVC3_SCL				
GND	4			

## 2.3.29 Outlet Thermal Sensors connector (OUTLET\_SER1)



Signal				
+3.3VSB	1			
SMB_TEMPSENSOR_STBY_LVC3_SDA	2			
SMB_TEMPSENSOR_STBY_LVC3_SCL	3			
GND	4			

2.3.30 HDD Backplane thermal Sensors connector (HDD\_SER1)





Signal			
+3.3VSB			
SMB2_TEMPSENSOR_STBY_LVC3_SDA	2		
SMB2_TEMPSENSOR_STBY_LVC3_SCL			
GND			
SSD_LED_N	5		

2.3.31 VGA connector (JVGA1)





Signal	PIN	PIN	Signal
CRT_z_RED	2	1	+5V
CRT_z_GREEN	4	3	GND
CRT_z_BLUE	6	5	NC
NC	8	7	CRT_DDC_z_DATA
GND	10	9	CRT_z_HSYNC
GND	12	11	CRT_z_VSYNC
GND	14	13	CRT_DDC_z_CLK
GND	16	15	GND


### 2.3.32 For BMC debug message read (JBMC\_UART5)



Signal	PIN
+3.3VSB	4
GND	3
UART5_RX	2
UART5_TX	1

# 2.3.33 CASE OPEN connector (JCASE\_OPEN1)





Signal	PIN
FP_CHASSIS_INTRUSION	1
GND	2

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### 2.3.34 RAID KEY connector (RAID\_KEY1)





Signal	PIN
FM_PCH_SATA_KEY_R	4
GND	3
PU_KEY_CONN_PIN2_R	2
GND	1

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## 2.4 CPU installation



**Step1.** To remove CPU socket cover and be careful of the latch on diagonal location as the red circle marking above photo.



**Step2.** To be careful of the diagonal location on the socket of Pin1 as above photo on red circle marking.

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**Step3.** There is marking of PUSH and LATCH on the Blaster. Heatsink cooler need to be installed on this side.



**Step4.** To turn upside down of the Blaster and install CPU on this side. To notice the red circle marking of the Pin1, and the red square marking of the latch.



Step5. To install the other side of the latch.

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Step6. To install 4 corners of CPU and Blaster to the heatsink.



To notice the orientation of the FAN as the red square marking of photo when installing the CPU heatsink module to the motherboard.



Step7. Please keep Pin1 as red-circled aligned with CPU when installing.

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Step8. Put it in along the Leader Pin on the motherboard.



Step9. Fasten screws.

(Fasten screws: 1->2->3->4, Unfasten screws: 4->3->2->1)



Step10. Installing RAM will be supported only in the models with CPU.

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### **3.1 Introduction**

The BIOS setup program allows users to modify the basic system configuration. In this following chapter will describe how to access the BIOS setup program and the configuration options that may be changed.

### 3.2 Starting Setup

AMI BIOS<sup>™</sup> is immediately activated when you first power on the computer. The BIOS reads the system information contained in the NVRAM and begins the process of checking out the system and configuring it. When it finishes, the BIOS will seek an operating system on one of the disks and then launch and turn control over to the operating system.

While the BIOS is in control, the Setup program can be activated in one of two ways: By pressing <ESC> or <Del> immediately after switching the system on, or By pressing the < ESC> or <Del> key when the following message appears briefly at the

left-top of the screen during the POST (Power On Self Test).

### Press <ESC> or <Del> to enter SETUP

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys.

### 3.3 Using Setup

In general, you use the arrow keys to highlight items, press <Enter> to select, use the PageUp and PageDown keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more detail about how to navigate in the Setup program using the keyboard.

Button	Description
↑	Move to previous item
$\downarrow$	Move to next item
<i>←</i>	Move to the item in the left hand
$\rightarrow$	Move to the item in the right hand
Esc key	Main Menu Quit and not save changes into NVRAM Status Page Setup Menu and Option Page Setup Menu Exit current page and return to Main Menu
+ key	Increase the numeric value or make changes
- key	Decrease the numeric value or make changes
F1 key	General help, only for Status Page Setup Menu and Option Page Setup Menu
F2 key	Previous Values
F3 key	Optimized defaults
F4 key	Save & Exit Setup

#### • Navigating Through The Menu Bar

Use the left and right arrow keys to choose the menu you want to be in.

**Note:** Some of the navigation keys differ from one screen to another.

#### • To Display a Sub Menu

Use the arrow keys to move the cursor to the sub menu you want. Then press <Enter>. A " $\geq$ " pointer marks all sub menus.

### 3.4 Getting Help

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc> or the <Enter> key again.

### 3.5 In Case of Problems

If, after making and saving system changes with Setup, you discover that your computer no longer is able to boot, the AMI BIOS supports an override to the NVRAM settings which resets your system to its defaults.

The best advice is to only alter settings which you thoroughly understand. To this end, we strongly recommend that you avoid making any changes to the chipset defaults. These defaults have been carefully chosen by both BIOS Vendor and your systems manufacturer to provide the absolute maximum performance and reliability. Even a seemingly small change to the chipset setup has the potential for causing you to use the override.

### 3.6 BIOS setup

Once you enter the Aptio Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions and exit choices. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.

### 3.6.1 Main Menu

This section allows you to record some basic hardware configurations in your computer and set the system clock.

Aptio Setup Uti Main Advanced Server Mgmt	lity – Copyright (C) 2020 America Security Boot Save & Exit	n Megatrends, Inc.
BIOS Information BIOS Vendor Core Version Compliancy Project Version Build Date and Time Access Level BIOS Name BIOS Version System Language ► Intel RC Version	American Megatrends 5.14 UEFI 2.7; PI 1.6 OACLA 0.45 x64 O9/09/2020 14:30:17 Administrator HPM6210B 0.0B [English]	Intel Reference Code Version
System Date System Time	[Tue 09/22/2020] [15:39:12]	<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
Version 2 20 1	275. Conuright (C) 2020 American	Megatrends Inc

Main	Aptio Setup	Utility –	Copyright	(C) 2020	American	Megatrends,	Inc.
Main Intel RC Vers: Platform Infor Processor PCH RC Revision BIOS ACM SINIT ACM Memory Informa Total Memory Usable Memory	Aptio Setup lon mation	Utility -	Copyright TypeNeon( 50657 - ( LBG QS/PF 0580.D04 1.7.1 1.7.2 8192 MB 8192 MB	(C) 2020 DityEPRP CLX V1 RQ - 1G -	S1	Hegatrends, ++: Select S fl: Select S Enter: Select +/-: Change F1: General F2: Previous F3: Optimize F4: Save & f ESC: Exit	Inc. Screen Item ct Opt. Help s Values ed Defaults Exit
	Version 2.3	20.1275. Cr	nuright ((	:) 2020 A	merican Me	egatrends. In	

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#### 3.6.1.1 System Language

This option allows choosing the system default language.

#### 3.6.1.2 System Date

Use the system date option to set the system date. Manually enter the day, month and year.

#### 3.6.1.3 System Time

Use the system time option to set the system time. Manually enter the hours, minutes and seconds.



**Note:** The BIOS setup screens shown in this chapter are for reference purposes only, and may not exactly match what you see on your screen. Visit the Avalue website (<u>www.avalue.com.tw</u>) to download the latest product and BIOS information.

#### 3.6.2 Advanced Menu

This section allows you to configure your CPU and other system devices for basic operation through the following sub-menus.



# 3.6.2.1 Processor Configuration

Aptio Setup Utility - Advanced	Copyright (C) 2020 Americar	) Megatrends, Inc.
Processor Configuration Processor BSP Revision Processor Socket Processor ID Processor Frequency Processor Max Ratio Processor Max Ratio Processor Min Ratio Microcode Revision L1 Cache RAM L2 Cache RAM L3 Cache RAM Processor 0 Version Processor 1 Version Total CPU Number : 20 Hyper-Threading [ALL] Intel Virtualization Technology Processor 0 Core Disable Bitmap Processor 1 Core Disable Bitmap Processor 1 Core Disable Bitmap	50657 - CLX V1 Socket 0 Socket 1 00050657* 00050657 2.200GHz 2.200GHz 16H 16H 0AH 0AH 05000021 05000021 64KB 64KB 1024KB 1024KB 14080KB 14080KB Intel(R) Xeon(R) Silver 4210 CPU @ 2.20GHz Intel(R) Xeon(R) Silver 4210 CPU @ 2.20GHz [Disable] [Disable] 0 0	Enables Hyper Threading (Software Method to Enable/Disable Logical Processor threads. ++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.20.1275. Co	opyright (C) 2020 American ⊬	legatrends, Inc.
Aptio Setup Utility – Advanced	Copyright (C) 2020 Americar	Megatrends, Inc.
Processor BSP Revision Processor Socket Processor ID Processor Frequency Processor Max Ratio Processor Min Ratio Microcode Revision L1 Cache RAM L2 Cache RAM L3 Cache RAM Processor 0 Version Processor 1 Version Total CPU Number : 20 Hyper-Threading [ALL] Intel Virtualization Technology Processor 0 Core Disable Bitmap Processor 1 Core Disable Bitmap	50657 - CLX V1 Socket 0 Socket 1 00050657* 00050657 2.200GHz 2.200GHz 16H 16H 0AH 0AH 05000021 05000021 64KB 64KB 1024KB 1024KB 14080KB 14080KB Intel(R) Xeon(R) Silver 4210 CPU @ 2.20GHz Intel(R) Xeon(R) Silver 4210 CPU @ 2.20GHz [Disable] [Disable] 0 0	<pre>Package C State setting  +*: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>

Item	Options	Description
Hyper Threading (ALL)	Disable[Default]	Enables Hyper Threading (Software Method to
Hyper-Threading (ALL)	Enable	Enable/Disable Logical Processor threads.
Intel Mintuelization Technology	Disable[Default] Enables the Vanderpool Technology, takes	
Inter virtualization rechnology	Enable	after reboot.
Processor 0/1 Core Disable	0	0: Enable all cores. 3fff: Disable all cores.

#### 3.6.2.1.1 CPU P State Control



ltem	Option	Description
SpeedStep (Pstates)	Enable <b>[Default]</b> , Disable	Enable/Disable EIST (P-States)
Turbo Mode	Enable Dischla <b>l Defeut</b> t	Enable/Disable processor Turbo Mode (requires
	Disable[Default]	ENTITIVI enabled too).

### 3.6.2.1.2 CPU C State Control

CPU C State Control       Autonomous Core C-State Control         Autonomous Core C-State       [Disable]         CPU C6 report       [Auto]         Enhanced Halt State (CIE)       [Enable]         **: Select Screen         11: Select Item         Enter: Select         */-: Change Opt.         F1: General Help         F2: Previous Values         F3: Optimized Defaults         F4: Save & Exit         ESC: Exit	Aptio Setup Utility - Advanced	Copyright (C) 2020 American	Megatrends, Inc.
Autonomous Core C-State [Disable] CPU C6 report [Auto] Enhanced Halt State (C1E) [Enable] +t: Select Screen ti: Select Screen ti: Select Item Enter: Select +/-: Change Opt, F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	CPU C State Control		Autonomous Core C-State Control
F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	Autonomous Core C-State CPU C6 report Enhanced Halt State (CIE)	(Disable) (Auto) [Enable]	++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help
			F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

ltem	Option	Description
Autonomous Coro C.Stato	Enable	Autonomous Coro C Stato Control
Autonomous core c-state	Disable[Default],	
	Disable	
CPU C6 report	Enable	Enable/Disable CPU C6(ACPI C3) report to OS.
	Auto[Default]	
Enhanced Halt State (C1E)	Disable[Default]	Core C1E auto promotion Control. Takes effect after
Enhanced Hait State (CTE)	Enable	reboot.

# 3.6.2.1.3 Package C State Control

Aptio Setup Advanced	Jtility – Copyright (C) 2020 Ar	merican Megatrends, Inc.
Package C State Control		Package C State limit
Package C State		
		++: Select Screen  11: Select Item
		Enter: Select +/-: Change Opt.
		F1: General Help F2: Previous Values
		F3: Optimized Defaults F4: Save & Exit
		ESC: Exit
Version 2.2	) 1 1275	airan Medatrando Inc

Item	Option	Description
Package C State	C0/C1 state	
	C2 state	
	C6(non Retention)state	Dookogo C Stata limit
	C6(Retention)state	Fackage C State IIIIIt.
	No Limit	
	Auto <b>[Default]</b> ,	

### 3.6.2.2 Common RefCode Configuration

Aptio Set Advanced	up Utility – Copyright (C) 2020 Amer	rican Megatrends, Inc.
Common RefCode Configur	ation	Enable or Disable Non uniform
Numa	[Enable]	nemory necess (Nonn).
		++: Select Screen 14: Select Item
		Enter: Select +/−: Change Opt. F1: General Help
		F2: Previous Values F3: Optimized Defaults
		F4: Save & Exit ESC: Exit
Version	2.20.1275. Copyright (C) 2020 Americ	can Megatrends, Inc.

Item	Option	Description
Numa	Disable	Enable or Disable Non uniform Memory Access
	Enable[Default]	(NUMA).

# 3.6.2.3 UPI Configuration

Aptio Setup Utility – Advanced	Copyright (C) 2020 American	Megatrends, Inc.
UPI Configuration 	2 2 Fast 9.6 GT/s 90000000 / FBFFFFF 000000000000000 / 000000000FFFFFFF	Select the UPI link speed as either the POR speed (Fast) or default speed (Slow)
UPI Pci-e Configuration Base / Size Link Speed Mode	80000000 / 10000000 [Fast]	<pre>++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
Version 2.20.1275. Co	ppyright (C) 2020 American M	egatrends, Inc.

Item	Option	Description
Link Speed Mode	Slow	Select the UPI link speed as either the POR speed
	Fast[Default]	(Fast) or default speed (Slow).

# 3.6.2.4 Memory Configuration

Aptio Setup Utility - Advanced	Copyright (C) 2020 Americar	Megatrends, Inc.
 Integrated Memory Controller (iMC)		Maximum Memory Frequency Selections in Mhz. Do not select Reserved
Memory Frequency ▶ Memory Topology		
		<pre>++: Select Screen f1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
Version 2.20.1275. Co	pyright (C) 2020American ⊧	egatrends, Inc.

ltem	Option	Description
Memory Frequency	Auto[Default]/800/1000/1066/1200 /1333/1400/1600/1800/1866 /2000/2133/2200/2400/2600/2666 /2800-OvrClk/2933/3000-OvrClk /3200-OvrClk/3400-OvrClk/3466-OvrClk /3600-OvrClk/3733-OvrClk/3800-OvrClk /4000-OvrClk/4266-OvrClk /4400-OvrClk	Maximum Memory Frequency Selections in Mhz. Do not select Reserved.

#### 3.6.2.4.1 Memory Topology



#### 3.6.2.5 IIO Configuration



# 3.6.2.5.1 Intel® VT for Directed I/O (VT-d)

Aptio Setup Utility – Copyright (C) 2020 American Advanced	Megatrends, Inc.
Intel® VT for Directed I/O (VT-d)	Enable/Disable Intel® Virtualization Technology for Directed I/O (VT-d) by reporting the I/O device
	assignment to VMM through DMAR ACPI Tables.
	++: Select Screen †↓: Select Item Enter: Select
	+/-: Unange Upt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Evit
	ESC: Exit
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Item	Options	Description
Intel® VT for Directed I/O (VT-d)	Enable <b>[Default]</b> Disable	Enable/Disable Intel® Virtualization Technology for Directed I/O (VT-d) by reporting the I/O device assignment to VMM through DMAR ACPI Tables.

### 3.6.2.5.2 Intel® VMD Technology

Ad	Aptio Setup Utility – Copyright (C) 2020 American <mark>vanced</mark>	Megatrends, Inc.
Intel® VM	D technology	
▶ Intel® VM	D for Volume Management Device on Socket 1	
		<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
	Vancian 2 20 1275 Convirtet (C) 2020 American M	arathanda. The

#### 3.6.2.5.2.1 Intel® VMD for Volume Management Device on Socket 1



Item	Option	Description
Intel® VMD for Volume Management Device for PStack0	Disable Enable <b>[Default]</b>	Enable/Disable Intel® Volume Management Device Technology in this Stack.
VMD port 1A	Disable Enable <b>[Default]</b>	Enable/Disable Intel® Volume Management Device Technology on specific root port.
VMD port 1B	Disable Enable <b>[Default]</b>	Enable/Disable Intel® Volume Management Device Technology on specific root port.
VMD port 1C	Disable Enable <b>[Default]</b>	Enable/Disable Intel® Volume Management Device Technology on specific root port.
VMD port 1D	Disable Enable <b>[Default]</b>	Enable/Disable Intel® Volume Management Device Technology on specific root port.
Hot Plug Capable	Disable <b>[Default]</b> Enable	Enable/Disable Hot Plug for PCIe Root Ports 1A-1D.
CfgBar size	25	Setup VMD Config BAR size (in bits Min=20, Max=27), ex: 20bits=1MB, 27bits=128MB.
CfgBar attribute	64-bit prefetchable	Setup VMD Config BAR attribute, like 64-bit or prefetchable.
MemBar1 size	nBar1 size 25	Setup VMD Memory BAR1 size (in bits Min=20), ex: 20bits=1MB, 22bits=4MB, 26bits=64MB.
MemBar1 attribute	32-bit non-prefetchable 64-bit non-prefetchable 64-bit prefetchable	Setup VMD Config BAR attribute, like 64-bit or prefetchable.
MemBar2 size	20	Setup VMD Memory BAR2 size (in bits Min=20), ex: 20bits=1MB, 22bits=4MB, 26bits=64MB.

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MemBar2 attribute	32-bit non-prefetchable 64-bit non-prefetchable	Setup VMD Config BAR attribute, like 64-bit or prefetchable.
	64-bit prefetchable	

# 3.6.2.6 PCI Express Configuration

Aptio Setu Advanced	p Utility – Copyright	(C) 2020 American	Megatrends, Inc.
PCI Express Root Port 1 PCI Express Root Port 2 PCI Express Root Port 3 (IT8093PCI) PCI Express Root Port 4 PCI Express Root Port 5 PCI Express Root Port 6 PCI Express Root Port 9	(LAN1) [Enabled] (LAN2) [Enabled] [Enabled] (BMC) [Enabled] (LAN3) [Enabled] (LAN4) [Enabled] (M.2) [Enabled]		Control the PCI Express Root Port.
			<pre>++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
Version 2	.20.1275. Copyright ((	C) 2020 American Me	egatrends, Inc.

Item	Options	Description
PCI Express Root Port 1(LAN1)	Disabled Enabled <b>[Default]</b>	Control the PCI Express Root Port.
PCI Express Root Port 2(LAN2)	Disabled Enabled <b>[Default]</b>	Control the PCI Express Root Port.
PCI Express Root Port 3(IT8893PCI)	Disabled Enabled <b>[Default]</b>	Control the PCI Express Root Port.
PCI Express Root Port 4(BMC)	Disabled Enabled <b>[Default]</b>	Control the PCI Express Root Port.
PCI Express Root Port 5(LAN3)	Disabled Enabled <b>[Default]</b>	Control the PCI Express Root Port.
PCI Express Root Port 6(LAN4)	Disabled Enabled <b>[Default]</b>	Control the PCI Express Root Port.
PCI Express Root Port 9(M.2)	Disabled Enabled <b>[Default]</b>	Control the PCI Express Root Port.

#### 3.6.2.7 sSATA Configuration



Item	Options	Description
sSATA Controller	Enable <b>[Default]</b>	Enable or Disable SATA Controller.
	Disable	
Configuro sSATA as	AHCI <b>[Default]</b>	This will configure cSATA as PAID or AHCI
Configure SSATA as	RAID	This will conligute SSATA as RAID of AHCI.
	Disable	Enchle or Dischle CATA Port
SSATA Port	Enable[Default]	Enable of Disable SATA Polt.
List Dive	Disable <b>[Default]</b>	Design stop this next on that Diversible
Hot Plug	Enable	Designates this port as Hot Pluggable.
	Hard Disk Drive	Identify the SATA port is connected to Solid State
SSATA Device Type	Solid State Drive[Default]	Drive or Hard Disk Drive.

### 3.6.2.8 SATA Configuration



Item	Options	Description
SATA Controller	Enable <b>[Default]</b> Disable	Enable or Disable SATA Controller.
Configure SATA as	AHCI <b>[Default]</b> RAID	This will configure SATA as RAID or AHCI
SATA Port	Disable Enable <b>[Default]</b>	Enable or Disable SATA Port.
Hot Plug	Disable <b>[Default]</b> Enable	Designates this port as Hot Pluggable.
Spin Up Device	Disable <b>[Default]</b> Enable	If enabled for any of ports Staggerred Spin Up will be performed and only the drives witch have this option enabled will spin up at boot. Otherwise all drives spin up at boot.
SATA Device Type	Hard Disk Drive Solid State Drive <b>[Default]</b>	Identify the SATA port is connected to Solid State Drive or Hard Disk Drive.

### 3.6.2.8.1 SATA Mode options

Aptio Setup Advanced	Utility – Copyright	(C) 2020 American	Megatrends, Inc.
SATA HDD Unlock SATA Led locate	[Enable] [Enable]		Enable: HDD password unlock is enabled in the OS
			<pre>++: Select Screen  14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
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Item	Option	Description
	Disable	Enable: HDD password unlock is enabled in the
SATA HDD UNIOCK	Enable[Default]	OS.
SATA Led locate	Disable Enable <b>[Default]</b>	If enabled LED/SGPIO hardware is attached.

# 3.6.2.9 Miscellaneous Configuration

Aptio Setup Utility – Advanced	Copyright (C) 2020 American	n Megatrends, Inc.
Miscellaneous Configuration		Select SO/S5 for ACPI state after a G3
PCH state after G3 Wake On Lan/Ring Support Active Video Wake On RTC Support	[SS] [Enable] [Auto] [Disable]	++: 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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Item	Options	Description
PCH state after G3	S0 S5 <b>[Default]</b> Leave power state unchanged	Select S0/S5 for ACPI state after a G3.
Wake On Lan/Ring Support	Disable, Enable <b>[Default]</b>	Enable or Disable Wake On Lan Support.
Active Video	Auto <b>[Default]</b> Onboard Offboard	Select active Video type.
Wake On RTC Support	Disable <b>[Default]</b> , Enable	Enable or disable System wake on alarm event. When enabled, System will wake on the day ::hr::min::sec specified.

# 3.6.2.10 Server ME Configuration

Aptio Setup Utility Advanced	– Copyright (C) 2020 Amer	ican Megatrends, Inc.
General ME Configuration Oper. Firmware Version Backup Firmware Version Recovery Firmware Version ME Firmware Status #1 ME Firmware Status #2 Current State Error Code	0A:4.1.4.256 N/A 0A:4.1.4.256 0x000F0245 0x88112026 Operational No Error	++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help
		F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.20.1275.	Copyright (C) 2020 Americ	an Megatrends, Inc.

### 3.6.2.11 Trusted Computing

Aptio Setu Advanced	p Utility – Copyright (C)	2020 American Megatrends, Inc.
TPM20 Device Found Firmware Version: Vendor:	7.2 NTC	Enables or Disables BIOS support for security device. O.S. will not show Security Device ISC SEI protocol and
TPM Support	[Enable]	INTIA interface will not be available.
		Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults
		F4: Save & Exit ESC: Exit
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Item	Options	Description
TPM Support	Disable, Enable <b>[Default]</b>	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.

### 3.6.2.12 ACPI Settings

Aptio Setup Utility – Advanced	Copyright (C)	2020 American	Megatrends, Inc.
ACPI Settings			Enables or Disables BIOS ACPI Auto Configuration
Enable ACPI Auto Configuration			
Enable Hibernation	[Disabled]		
			→++: 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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Item	Options	Description
Enable ACPI Auto	Disabled[Default]	Enables or Disables BIOS ACRI Auto Configuration
Configuration	Enabled	Enables of Disables BIOS ACFT Auto Configuration.
Enable Hibernation	Disabled <b>[Default]</b> Enabled	Enables or Disables System ability to Hibernate
		(OS/S4 Sleep State). This option may not be effective
		with some operating systems.

### 3.6.2.13 Serial Port Console Redirection

Aptio Setup Utility - Advanced	Copyright (C) 2020 America	an Megatrends, Inc.
COMO Console Redirection Console Redirection Settings Legacy Console Redirection Legacy Console Redirection Settings	[Disabled]	Console Redirection Enable or Disable.
		<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
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Item	Options	Description	
Console Redirection	Disabled[Default],	Consolo Redirection Enable or Disable	
	Enabled	Console Redirection Enable of Disable.	

### 3.6.2.13.1 Legacy Console Redirection Settings



ltem	Option	Description
Dedine offer COM Dest		Select a COM port to display redirection of
Redirection COM Fort	COMO[Delault]	Legacy OS and Legacy OPROM Messages.
Becelution	80x24[Default]	On Legacy OS, the Number of Wows and
Resolution	80x25	Columns supported redirection.
		When Bootloader is selected, then Legacy
Redirect After POST		Console Redirection is disabled before booting to
	Always Enable[Default]	legacy OS. When Always Enable is selected,
	BootLoader	then Legacy Console Redirection is enabled for
		legacy OS. Default setting for this option is set to
		Always Enable.

### 3.6.2.14 Super IO Configuration

Aptio Setup Utility – Copyright (C) 2020 American Advanced	Megatrends, Inc.
Super IO Configuration > Serial Port 1 Configuration > Serial Port 2 Configuration	Set Parameters of Serial Port 1 (COMA)
	<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
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Item	Description
Serial Port 1 Configuration	Set Parameters of Serial Port 1 (COMA).
Serial Port 2 Configuration	Set Parameters of Serial Port 2 (COMB).

### 3.6.2.14.1 Serial Port 1 Configuration



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ltem	Option	Description
Serial Port	Enabled <b>[Default]</b> , Disabled	Enable or Disable Serial Port (COM).

### 3.6.2.14.2 Serial Port 2 Configuration



Item	Option	Description
Serial Port	Enabled <b>[Default]</b> , Disabled	Enable or Disable Serial Port (COM).

### 3.6.2.15 USB Configuration

The USB Configuration menu helps read USB information and configures USB settings.

Aptio Setup Utility - ( Advanced	Copyright (C) 2020 American	Megatrends, Inc.
USB Configuration		Enables Legacy USB support.
USB Module Version	21	support if no USB devices are connected. DISABLE option will
USB Controllers: 1 XHCI		keep USB devices available only for EFI applications.
USB Devices: 4 Drives, 2 Keyboards, 2 Mice,	2 Hubs	
Legacy USB Support	[Enabled]	
USB Mass Storage Driver Support	[Enabled]	
Mass Storage Devices: TetElashTranscend 8GB 1100	[Auto]	++• Select Screen
AMI Virtual CDROMO 1.00	[Auto]	↑↓: Select Item
AMI Virtual HDiskO 1.00	[Auto]	Enter: Select
AMI Virtual HDisk1 1.00	[Auto]	+/-: Change Opt.
		F1: General Help F2: Previous Values
		F3: Optimized Defaults
		F4: Save & Exit
		ESC: EXIT
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Item	Options	Description
Legacy USB Support	Enabled <b>[Default]</b> , 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.
USP Mass Storage Driver Support	Disabled	Enable/Disable USB Mass Storage Driver
USB Mass Storage Driver Support	Enabled[Default],	Support.
Device power-up delay	Auto <b>[Default]</b> Manual	Maximum time the device will take before it properly reports itself to the Host Controller. 'Auto' uses default value: for a Root port it is 100ms, for a Hub port the delay is taken form Hub descriptor.
Mass Storage Devices	Auto[Default]	Mass storage device emulation type. 'AUTO'
	Floppy	enumerates devices according to their media
	Forced FDD	format. Optical drives are emulated as
	Hard Disk	'CDROM', drives with no media will be
	CD-ROM	emulated according to a drive type.

### 3.6.2.16 NVMe Configuration



### 3.6.2.17 Option ROM Dispatch Policy

Aptio Setup Utility – Advanced	Copyright (C) 2020 Americ:	an Megatrends, Inc.
AMI ROM Dispatch Policy : A5.01.18 Device Class Option ROM Dispatch Pol OnBoard Mass Storage Controller OnBoard Mass Storage Controller OnBoard Display Controller OnBoard Network Controller (LAN1) OnBoard Network Controller (LAN2) OnBoard Network Controller (LAN3) OnBoard Network Controller (LAN4) Slot # 1 Empty Slot # 2 Bridge Device Slot # 3 Empty Slot # 4 Empty Slot # 4 Empty Slot # 6 Empty	licy: [Enabled] [Enabled] [Disabled] [Disabled] [Disabled] [Disabled] [Enabled] [Enabled] [Enabled] [Enabled] [Enabled] [Enabled]	Onboard Device has: UEFI [X] Legacy [X] Embedded ROM(s). VIDx8086;DIDxA1D2 @ s0 Bx0 Dx11 Fx5 ++: Select Screen 14: Select Item Enter: Select
Slot # 7 Empty	[Enabled]	+/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

Item	Options	Description
Onboard Mass Storage Controller	Enabled <b>[Default]</b> , Disabled	Onboard Device has: UEFI [X] Legacy [X]

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		Embedded ROM(s).
		VIDx8086; DIDxA1D2
		@ s0 Bx0  Dx11  Fx5
Onboard Display Controller		Onboard Device has:
	Enabled <b>[Default]</b> , Disabled	UEFI [X]
		Legacy [X]
		Embedded ROM(s).
		VIDx1A03; DIDx2000
		@ s0 BxA  Dx0  Fx0
	Enabled <b>[Default]</b> ,	Onboard Device has:
		UEFI [X]
Onboard Network Controller(I AN1)		Legacy [X]
	Disabled	Embedded ROM(s).
		VIDx8086; DIDx1533
		@ s0 Bx6  Dx0  Fx0
		Onboard Device has:
		UEFI [X]
Onboard Network Controller(LAN2)	Enabled,	Legacy [X]
	Disabled[Default]	Embedded ROM(s).
		VIDx8086; DIDx1533
		@ s0 Bx7  Dx0  Fx0
		Onboard Device has:
		UEFI [X]
Onboard Network Controller(LAN3)	Enabled, Disabled <b>[Default]</b>	Legacy [X]
		Embedded ROM(s).
		VIDx8086; DIDx1533
		@ s0 Bx1  Dx0  Fx0
	Enabled, Disabled <b>[Default]</b>	Onboard Device has:
		UEFI [X]
Onboard Network Controller(LAN4)		Legacy [X]
		Embedded ROM(s).
		VIDx8086; DIDx1533
		@ s0 Bx2  Dx0  Fx0
Slot#1 Empty	Enabled <b>[Default]</b> , Disabled	Enable or Disable Option ROM execution
		for selected Slot.
Slot#2 Bridge Device	Enabled[Default],	Enable or Disable Option ROM execution
	Disabled	for selected Slot.
Slot#3 Empty	Enabled[Default],	Enable or Disable Option ROM execution
	Disabled	for selected Slot.
Slot#4 Empty	Enabled[Default],	Enable or Disable Option ROM execution
	Disabled	for selected Slot.
Slot#5 Empty	Enabled[Default],	Enable or Disable Option ROM execution
	Disabled	for selected Slot.
Slot#6 Empty	Enabled[Default],	Enable or Disable Option ROM execution
	Disabled	for selected Slot.
Slot#7 Empty	Enabled[Default],	Enable or Disable Option ROM execution
Siot#/ Empty	Disabled	for selected Slot.

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Network Stack	[Disabled]	Enable/Disable UEFI Network Stack
		<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>

### 3.6.2.18 Network Stack Configuration

ltem	Options	Description
Network Stack	Enabled Disabled <b>[Default]</b>	Enable/Disable UEFI Network Stack.

### 3.6.2.19 Intel® Virtual RAID on CPU

Aptio Setup Utility – Copyright (C) 2020 American Advanced	Megatrends, Inc.
Intel(R) VROC with VMD Technology 6.0.0.1024 Upgrade key: VROC in pass-thru mode	Select to see more information about the Intel VMD Controllers
No RAID volumes on the system	
Intel VROC Managed Controllers: ▶ All Intel VMD Controllers	
	<pre>++: Select Screen tl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
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### 3.6.2.19.1 All Intel VMD Controllers



### 3.6.3 Server Mgmt

Aptio Setup Uti Main Advanced Server Mgmt	l <mark>ity – Copyright (C) 2020 Ame</mark> Security Boot Save & Exit	rican Megatrends, Inc.
BMC Device Revision BMC Firmware Revision IPMI Version BMC Interface(s) BMC Support Wait For BMC FRB-2 Timer FRB-2 Timer timeout FRB-2 Timer Policy	1 0.01.20200508 2.0 KCS, USB [Enabled] [Disabled] [Enabled] [6 minutes] [Do Nothing]	▲ Press <enter> to change the SEL event log configuration.</enter>
OS Watchdog Timer OS Wtd Timer Timeout OS Wtd Timer Policy BMC Configured Power Control Policy Power Control Policy	[Disabled] [10 minutes] [Reset] Always Power Up [Unspecified]	++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values
<ul> <li>System Event Log</li> <li>Bmc self test log</li> <li>BMC network configuration</li> <li>View System Event Log</li> <li>BMC User Settings BMC Warm Reset</li> </ul>		F3: Optimized Defaults F4: Save & Exit ESC: Exit
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Item	Options	Description
BMC Support	Enabled <b>[Default]</b> Disabled	Enable/Disable interfaces to communicate with BMC.
Wait For BMC	Enabled Disabled <b>[Default]</b>	Wait For BMC response for specified time out. BMC

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		starts at the same time when BIOS starts during AC
		power ON. It takes around 30 seconds to initialize
		Host to BMC interfaces.
FRB-2 Timer	Enabled <b>[Default]</b> Disabled	Enable or Disable FRB-2 time (POST timer).
FRB-2 Timer timeout	3 minutes 4 minutes 5 minutes 6 minutes <b>[Default]</b>	Enter value Between 3 to 6 min for FRB-2 Timer Expiration value.
FRB-2 Timer Policy	Do Nothing <b>[Default]</b> Reset Power Down Power Cycle	Configure how the system should respond if the FRB-2 Timer expires. Not available if FRB-2 Timer is disabled.
OS Watchdog Timer	Enabled Disabled <b>[Default]</b>	If enabled, starts a BIOS timer which can only be shut off by Management Software after the OS loads. Helps determine that the OS successfully loaded or follows the OS Boot Watchdog Timer policy.
Power Control Policy	Do Not PowerUp Last Power State Power Restore Unspecified <b>[Default]</b>	Configure how the system should respond if AC Power is lost, Reset not required as selected Power policy will be set in BMC when policy is saved.

# 3.6.3.1 System Event Log

Aptio Setup Utility – Server Mgmt	Copyright (C) 2020 American	Megatrends, Inc.
Enabling/Disabling Options SEL Components	[Enabled]	Change this to enable or disable event logging for error/progress codes during
Erasing Settings Erase SEL When SEL is Full	[No] [Delete Oldest Record]	boot.
Custom EFI Logging Options Log EFI Status Codes	[Both]	
NOTE: All values changed here do not effect until computer is resta	: take arted.	
		↔: Select Screen †∔: Select Item Enter: Select
		+/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Evit
		ESC: Exit
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ltem	Option	Description	
SEL Componente	Enabled[Default]	Change this to enable or disable event logging	
SEL Components	Disabled	for error/progress codes during boot.	
Erase SEL	No[Default]	Choose options for erasing SEL.	
	Yes, On next reset		
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	Yes, On every reset	
	Do Nothing	
When SEL is Full	Erase Immediately	Choose options for reactions to a full SEL.
	Delete Oldest Record[Default]	
	Disabled	
Log EEL Status Codes	Both[Default]	Disable the logging of EFI Status Codes or log
LOG EFI Status Codes	Error code	only error code or only progress code or both.
	Progress code	

# 3.6.3.2 Bmc self test log

Log area usage = 00 out of 20 logs	IS
Erase Log [Yes, On every reset] When log is full [Clear Log]	
Log Empty	
++: Select Screer 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Valu F3: Optimized Def F4: Save & Exit ESC: Exit	n .ues :faults
Version 2 20 1275 Convright (C) 2020 American Megatrends Inc	

Item	Option	Description
Erase Log	Yes, On every reset <b>[Default]</b> No	Erase Log Options.
When log is full	Clear Log <b>[Default]</b> Do not log any more	Select the action to be taken when log is full.

# 3.6.3.3 BMC network configuration

BMC network configuration ***********************************	specified]	Select to configure LAN channel parameters statically or dynamically(by BIOS or BMC). Unspecified option will not modify any BMC network parameters during BIOS phase
Lan channel 1 Configuration Address source [Une Current Configuration Address Dyna source Station IP address 0.0 Subnet mask 0.0	specified]	parameters during BIOS phase
Configuration Address source       [Uncurrent Configuration Address       Dyna         Source       Station IP address       0.0         Subnet mask       0.0	pecified]	
Current Configuration Address Dyn source Station IP address 0.0 Subnet mask 0.0	un i e A delus e e o Dese Diseur	
Station IP address     0.0       Subnet mask     0.0	mitchudressBMcDncp	
Subnet mask 0.0	.0.0	
	.0.0	
Station MAC address 00–3	30-64-44-55-6A	
Router IP address 0.0	.0.0	
Router MAC address 00–0	0-00-00-00-00	↔: Select Screen
		↑↓: Select Item
***		Enter: Select
Configure IPv6 support		+/−: Change Opt.
****		F1: General Help
		F2: Previous Values
Lan channel 1		F3: Optimized Defaults
		F4: Save & Exit
IPv6 Support [Ena	abled]	ESC: Exit
Configuration Address source [Un	specified]	
	· · · · · · · · · · · · · · · · · · ·	

Item	Option	Description	
	Unspecified[Default]	Select configure LAN channel parameters	
Configuration Address	Static	statically or dynamically(by BIOS or BMC).	
source	DynamicBmcDhcp	Unspecified option will not modify any BMC	
	DynamicBmcNonDhcp	network parameters during BIOS phase.	
IPV6 Support	Enabled <b>[Default]</b> Disabled	Enable or Disable LAN1 IPv6 Support.	
Configuration Address source	Unspecified <b>[Default]</b> Static DynamicBmcDhcp	Select to configure LAN channel parameters statically or dynamically(by BIOS or BMC). Unspecified option will not modify any BMC network parameters during BIOS phase.	

#### 3.6.3.4 BMC User Settings



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BMC Device Revision BMC Firmware Revision IPMI Version BMC Interface(s)	1 0.01.20200508 2.0 KCS, USB	<ul> <li>Press <enter> to Add, Delete and Set Privilege level for users.</enter></li> </ul>
BMC Support Wait For BMC FRB-2 Timer FRB-2 Timer timeout FRB-2 Timer Policy OS Watchdog Timer OS Wtd Timer Timeout	[Enabled] [Disabled] [Enabled] [6 minutes] [Do Nothing] [Disabled] [10 minutes] [Peset]	
BMC Configured Power Control Policy Power Control Policy	Always Power Up [Unspecified]	<pre>++: Select Screen f↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values</pre>
<ul> <li>System Event Log</li> <li>Bmc self test log</li> <li>BMC network configuration</li> <li>View System Event Log</li> <li>BMC User Settings BMC Warm Reset</li> </ul>		F3: Optimized Defaults F4: Save & Exit ESC: Exit
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#### 3.6.3.4.1 BMC Add User Details

Aptio Setup Ut Server Mgmt	ility – Copyright (C) 2020 Amer	rican Megatrends, Inc.
BMC Add User Details User Name User Password User Access Channel No User Privilege Limit	[Disable] O [No Access]	Enter BMC User Name  ++: Select Screen  14: Select Item
		Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

ltem	Description
User Name	Enter BMC User Name.

Aptio Setup Utility – Copyright (C) 2020 American Server Mgmt	Megatrends, Inc.
BMC Delete User Details User Name User Password	Enter BMC User Name
	++: 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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#### 3.6.3.4.2 BMC Delete User Details

Item	Description
User Name	Enter BMC User Name.

# 3.6.3.4.3 BMC Change User Settings

	Aptio Setup Utility – Server Mgmt	Copyright (C) 2020 American	Megatrends, Inc.
BMC Change User Name User Passwo Change User User Access Channel No User Privil	User Settings rd Password ege Limit	[Disable] O [No Access]	Enter BMC User Name +: Select Screen 1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
ltem		Desci	rintion
User Name	Enter BMC User Name.		

#### 3.6.4 Security



#### • Administrator Password

Set setup Administrator Password

#### User Password

Set User Password

#### 3.6.4.1 Secure Boot

Aptio {	Setup Utility – Copyright (C) 2020 Ameri Security	ican Megatrends, Inc.
System Mode	Setup	Secure Boot feature is Active
Secure Boot	[Disable] Not Active	Platform Key(PK) is encolled and the System is in User mode.
Secure Boot Mode	[Custom]	platform reset
▶ Key Management		
		++: Select Screen 14: Select Item Enter: Select +/-: Change Ont
		F1: General Help F2: Previous Values F3: Optimized Defaults F4: Saue 8 Evit
		ESC: Exit
Versid	on 2.20.1275. Copyright (C) 2020 America	an Megatrends, Inc.

ltem	Option	Description
Secure Boot	Disabled Enabled <b>[Default]</b>	Secure Boot feature is Active if Secure Boot is Enable, Platform Key(PK) is enrolled and the System is in User mode. The mode change requires platform reset.
Secure Boot Mode	Standard Custom <b>[Default]</b>	Secure Boot mode selector: Standard/Custom. In Custom mode Secure Boot Variables can be configured without authentication.

# 3.6.4.1.1 Key Management

Aptio Setup Ut:	ility – Copyright (C) 2020 America Security	an Megatrends, Inc.
Vendor Keys	Valid	Install factory default Secure
Factory Key Provision • Restore Factory Keys • Reset To Setup Mode • Export Secure Boot variables • Enroll Efi Image		reset and while the System is in Setup mode
Device Guard Ready ► Remove 'UEFI CA' from DB ► Restore DB defaults	Keural Keur Caurace	
Platform Key(PK)   0  Key Exchange Keys   0  Authorized Signatures   0  Forbidden Signatures   0  Authorized TimeStamps   0  OsRecovery Signatures   0	Neys Ol No Keys Ol No Keys Ol No Keys Ol No Keys Ol No Keys Ol No Keys	++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.20.:	1275. Copyright (C) 2020 American	Megatrends, Inc.

ltem	Option	Description
Factory Key Provision	Disabled <b>[Default]</b> Enabled	Install factory default Secure Boot keys after the platform reset and while the System is in Setup mode.

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#### 3.6.5 Boot

Aptio Setup Utility – Main Advanced Server Mgmt Secur	Copyright (C) 2020 Americar ity <mark>Boot</mark> Save & Exit	Megatrends, Inc.
Boot Configuration Setup Prompt Timeout Bootup NumLock State Quiet Boot CSM Support Boot mode select	1 [On] [Disabled] [Disable] [UEFI]	Set the default timeout before system boot. A value of 65535 will disable the timeout completely.
FIXED BOOT ORDER Priorities Boot Option #1 Boot Option #2 Boot Option #3 Boot Option #4 Boot Option #5	[Hard Disk] [Network] [NVME] [CD/DVD] [USB Device:UEFI: JetFlashTranscend 8GB 1100, Partition 1]	<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
Version 2.20.1275. C	opyright (C) 2020 American ⊬	legatrends, Inc.

Aptio Setup Utility	– Copyright (C) 2020 American Boot	Megatrends, Inc.
Boot Option #1	[UEFI: JetFlashTranscend 8GB 1100, Partition 1]	Sets the system boot order
		<pre>++: Select Screen f↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
Version 2.20.1275.	Copyright (C) 2020 American M	legatrends, Inc.

ltem	Option	Description
Setup Prompt Timeout	1~ 65535	Set the default timeout before system boot. A value of 65535 will disable the timeout completely.
Bootup NumLock State	On <b>[Default]</b> Off	Select the keyboard NumLock state

#### User's Manual

Quiet Boot	Disabled[Default]	Enables or disables Quiet Boot option	
	Enabled		
CSM Support	Disabled[Default]	Enable/Disable CSM Support	
	Enabled		
Poot mode coloct	LEGACY	Salaat haat mada LECACY/UEEI	
Boot mode select	UEFI[Default]	Select boot mode LEGAC POEFI.	
Boot Option #1/#2/#3/#4/#5	Set the system boot orde	er.	
_	-		

# 3.6.6 Save and exit

Save Options       Reset Danges and Reset         Discard Changes and Reset       Default Values         Boto Device Priority       Water Sector Default Values         Boto Device Priority       (DQV mode)         #:: Select Screen       1: Select Item         Suppress ModeX       (DQV mode)         #:: Select Screen       1: Select Item         Fig.: Sector Default Values       EQU mode)         #:: Select Screen       1: Select Item         Fig.: Sector Default Values       EQU mode)         #:: Select Screen       1: Select Item         Fig.: Sector Default Values       EGU Device Priority         Version 2:20:1275. Copyright (C) 2020 American Megatrends, Inc.         Moin Advanced Server Mant Security Boot Save & Exit         Save Options       Save Corings and Reset         Discard Changes and Reset       Save Save & Sect         Default Options       Save A reset         Boot Device Priority       Save A reset         UFI: JefficieshFrancend digs 11       Save Configuration and reset?         Ves       No         #:: Select Screen       1: Select Screen         F:: Select Screen       1: Second Healt Values         Boot Device Priority       Save A reset         UFI: JefficishFrancend digs 11	Aptio Setup Utility – Copyright (C) 2020 American Main Advanced Server Mgmt Security Boot <mark>Save &amp; Exit</mark>	Megatrends, Inc.
UEF1: JetFlashFranscend dub 1100, Partition 1         Suppress ModeX       [DQV mode]         +: Select Screen His select Item Entrem Elect +/-: Change Dot. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit         Version 2.20.1275. Copyright (C) 2020 American Megatrends, Inc.         Aptio Setup Utility - Copyright (C) 2020 American Megatrends, Inc.         Aptio Setup Utility - Copyright (C) 2020 American Megatrends, Inc.         Save Options Save Options Save Changes and Reset Discard Changes and Reset Discard Changes and Reset         Default Options Restore Default Values Save the User Default Values Save the User Default Values Save the User Default Values Save configuration and reset?         UEF1: JetFlashTranscend 00B 11 Suppress ModeX         Yes       No         +: Select Screen H: Select F2: Previous Values F3: Optimized Defaults F3: Source Default F2: Previous Values F3: Optimized Defaults F4: Select Screen H: Select F3: Source Item F5:	Save Options Save Changes and Reset Discard Changes and Reset Default Options Restore Default Values Save the User Default Values Restore the User Default Values Boot Device Priority	Reset the system after saving the changes.
Version 2.20.1275. Copyright (C) 2020 American Megatrends, Inc. Aptio Setup Utility - Copyright (C) 2020 American Megatrends, Inc. Main Advanced Server Mgmt Security Boot Save & Exit Save Options Save Changes and Reset Discard Changes and Reset Default Options Restore Default Values Save the User Default Values Boot Device Priority UEF1: JetFlashTranscend 8GB 11 Save configuration and reset? Yes No Yes No F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	Suppress MadeX [DQV mode]	<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
Aptio Setup Utility - Copyright (C) 2020 American Megatrends, Inc. Main Advanced Server Mgmt Security Boot Save & Exit Save Options Save Changes and Reset Discard Changes and Reset Default Options Restore Default Values Save the User Default Values Boot Device Priority UEFI: JetFlashTranscend 86B 11 Save configuration and reset? Yes No +: Select Screen 4: Select Item Inter: Select -: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	Version 2 20 1275 Convright (C) 2020 American M	egatrends, Inc.
Save Options       Reset the system after saving the changes and Reset         Discard Changes and Reset       Default Options         Restore Default Values       Save the User Default Values         Boot Device Priority       UEFI: JetFlashTranscend 8GB 11         Suppress ModeX       Yes         Yes       No         F: Select Screen         I: Select Item         nter: Select         Yes         Yes         Ves         Source of the select         Yes         No	Volision E.E.O. 1210. Copy 1gnt (b) EVEC hills isomn	
	Aptio Setup Utility – Copyright (C) 2020 American Main Advanced Server Mgmt Security Boot Save & Exit	Megatrends, Inc.

#### 3.6.6.1 Save Changes and Reset

Reset the system after saving the changes.

#### 3.6.6.2 Discard Changes and Reset

Reset system setup without saving any changes.

#### 3.6.6.3 Restore Default Values

This option restores all BIOS settings to the factory default. This option is useful if the controller exhibits unpredictable behavior due to an incorrect or inappropriate BIOS setting.

#### 3.6.6.4 Save the User Default Values

Restore/Load Default values for all the setup options.

#### 3.6.6.5 Restore the User Default Values

Restore the User Defaults to all the setup options.

# 4. Drivers Installation



**Note**: Installation procedures and screen shots in this section are for your reference and may not be exactly the same as shown on your screen.

# 4.1 Install Chipset Driver

All drivers can be found on the Avalue Official Website:

http://www.avalue.com.tw.



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Note: The installation procedures and screen shots in this section are based on Windows 10 operation system. If the warning message appears while the installation process, click Continue to go on.

Re	adme File Information	
***	****************	************************************
*	Product: Intel(R) (	Chipset Device Software
*	Target PCH/Chipset	
8	10.1.19.1:	Intel(R) Atom(TM) Processor C3000 produc
*	10.1.17.1:	<pre>Intel(R) Atom(TM)/Celeron(R)/Pentium(R)</pre>
*	10.1.16.6:	Intel(R) 300 Series Chipset Family
*		Intel(R) C240 Series Chipset Family
*	10.1.15.5:	mobile 8th Gen Intel(R) Core(TM) process
*	10.1.14.7:	8th Gen Intel(R) Core(TM)
*	10.1.13.3:	Intel(R) Celeron(R)/Pentium(R) Processo
*	10.1.11.4:	Intel(R) 200 series chipset family
*		Intel(R) 300 series chipset family
*	10.1.10.4:	Intel(R) Xeon(R) processor E3-1200 v6 p
*		7th Generation Intel(R) Core(TM) process
*	10.1.9.2:	Intel(R) C620 series chipset
*	10.1.8.5:	Intel(R) Xeon(R) processor P family
*	10.1.7.3:	Intel(R) Xeon(R) processor E3-1500 v5 p
-		Intel(R) Xeon(R) processor E3-1200 v5 p
-	100010	6th Generation Intel(R) Core(TM) proces
	10.1.6.2:	Intel(R) 100 Series chipset
		Tabiling Case and a should be the

#### Step 3. Click Install.

el(R) Chipset Device Software	Intel(F
are about to install the following product:	You have
(R) Chipset Device Software	Intel(R) C
strongly recommended that you exit all programs before continuing.	You mus
s Next to continue, or press Cancel to exit the setup program.	
Next Cancel	View Log

# Intel(R) Chipset Device Software Completion You have successfully installed the following product: Intel(R) Chipset Device Software You must restart this computer for the changes to take effect. View Log Files Restart Now

Step 4. Setup completed.

#### Step1. Click Next.



Step 2. Click Accept.

# 4.2 Install VGA Driver

All drivers can be found on the Avalue Official Website:

http://www.avalue.com.tw.



**Note:** The installation procedures and screen shots in this section are based on Windows 10 operation system.



Step 3. Click Finish to complete setup.



Step 1. Click Next to continue installation.



Step 2. Click Install.

## 4.3 Install Ethernet Driver

All drivers can be found on the Avalue Official Website:

http://www.avalue.com.tw.



**Note:** The installation procedures and screen shots in this section are based on Windows 10 operation system.

Intel(R) Network Connections Install Wizard Welcome to the install wizard for Intel(R) Network Connections	(intel)
Installs drivers, Intel(R) Network Connections, and Advanced Networking Services.	
WARNING: This program is protected by copyright law and international treaties.	
< Back Next >	Cancel

#### Step 1. Click Next to continue installation.



Step 2. Click Next.

		10
Setup Options		(intol
Select the program features you want insta	alled.	unter
Install:		
Device drivers		
Intel® PROSet		
Intel® Advanced Network Services	s	
Feature Description		

#### Step 3. Click Next.



#### Step 4. Click Install.



Step 5. Click Finish to complete setup.

# 4.4 Install VROC Driver

All drivers can be found on the Avalue Official Website:

#### http://www.avalue.com.tw.



(intel)

Welcome

Note: The installation procedures and screen shots in this section are based on Windows 10 operation system.

SOFTWARE LICENS	SE AGREEMENT
DO NOT DOWNLO	AD, INSTALL, ACCESS, COPY, OR USE ANY PORTION OF THE
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OF THIS AGREEME	NT. If You do not agree to be bound by, or the entity for whose
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your employer or a	other entity for whose benefit you act, as applicable. If you are
agreeing to the ter	rms and conditions of this Agreement on behalf of a company or
other legal entity, y	you represent and warrant that you have the legal authority to
bind that legal ent	ity to the Agreement, in which case, "You" or "Your" shall be in
	entite of the second Mary and and an all seconds in dividually and a "Dente"

#### Step 3. Click Accept.



Step 1. Click Next to continue installation.



Step 2. Click Next.

#### Step 4. Click Next.

ct the features that ye	ou want installed.	
✓ Intel(R) Virtual RA	ID on CPU	
Intel(R) Accelerate	ed Storage Manager	

Next

Cancel

Step 5. Click Next.

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Step 6. Click Install to complete setup.

(intel)	Intel(R) Virtual RA Completion	ID on CPU	
You have su Intel(R) Virt	uccessfully installed the follow wal RAID on CPU	wing product:	
You must re	estart this computer for the c	hanges to take effect.	
<u>View Log Fi</u>	les	Restart Now	Restart Later

Step 7. Setup completed.

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# 5. Mechanical Drawing





Unit: mm

