ARC-1532-C2

15" 6th Gen Intel® Core™ BGA Processor i7/i5/i3 Fanless Rugged Touch Panel PC with IET Expansion

Quick Reference Guide

1st Ed – 11 May 2020

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Part No. E2017A520A0R

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(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

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To receive the latest version of the user's manual; please visit our Web site at: http://www.avalue.com.tw/

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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

- 1 x ARC-1532-C2 Panel PC
- 1 x Power Adapter
- 4 x screws for VESA



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

1.3 System Specifications

Component				
Mother Board	EMX-SKLUP			
CPU	Onboard 6th Gen. Intel® Core™ SoC i7/i5/i3 & Celeron® BGA Processor			
CPU Cooler (Type)	Fanless Heatsink			
Memory	2 x 260-pin DDR4 SODIMM Socket Up to 32GB DDR4 2133MTs SDRAM			
Power Supply	DC in			
Adapter	60W power adaptor			
Speaker	2W8Ω*2			
Wireless LAN	Optional USB or M.2 module			
Bluetooth	Optional			
Operating System	Ubuntu, Windows 10			
Expansion Card	1 x M.2 TypeB 3042/2242/2260/2280,1 x M.2 TypeA			
Storage				
Hard Disk Drive	1 x 2.5" Drive Bay			
Solid State Drive	1 x 2.5" Drive Bay			
Other Storage Device	1 x M.2 TypeB 3042/2242/2260/2280			
Panel				
LCD Panel	15" Sharp 350nits 1024*768 (C9689315002R)			
B/L Inverter/Converter	LCD built in			
Touch Screen	15"Capacitive 5 Wire Touch Panel(C968XC150T0R)			
Touch Controller	ICI2511MP.C2.P1.V1C968XC150C0R)			
External I/O				
Serial Port	6 x COM(default: 1RS485,5RS232)			
USB Port	4 x USB3.0			
DIO Port	16-bit GPIO Optional for COM Port			
Audio Port	Realtek ALC892 supports 2-CH			
LAN Port	1 x Intel® I219LM Gigabit Ethernet PHY			
	1 x Intel® I211AT PCI-e Gigabit Ethernet			
Wireless LAN Antenna	2 x Antenna			
Expansion Slots	1 x M.2 TypeB 3042/2242/2260/2280			
	1 x M.2 ТуреА			
Mechanical				
Power Type	AT/ATX			
Power Requirement	DC +12~24V			
ACPI	Single power ATX Support S0, S3, S4, S5 and ACPI 3.0 Compliant			
Power Connector	2.5mm Lockable DC Jack			

Туре				
Dimension	350.5 x 274.5 x 65 mm			
Weight	3.8 Kgs			
Color	Black			
Fanless	Yes			
OS Support	Linux, Ubuntu, Windows 10			
Reliability				
EMI Test	CE/ FCC class B			
Dust and Rain Test	Front Panel IP65			
	Random Vibration Operation:			
	1. PSD: 0.00454G²/Hz , 1.5 Grms			
	2. operation mode			
	3. Test Frequency : 5-500Hz			
	4. Test Axis : X,Y and Z axis			
	5. 30 minutes per each axis			
	6. IEC 60068-2-64 Test:Fh			
	7. Storage : CF or SSD			
	Sine Vibration test (Non-operation)			
	1 Test Acceleration : 2G			
	2 Test frequency : 5~500 Hz			
Vibration Test	3 Sweep : 1 Oct/ per one minute. (logarithmic)			
	4 Test Axis : X,Y and Z axis			
	5 Test time :30 min. each axis			
	6 System condition : Non-Operating mode			
	7. Reference IEC 60068-2-6 Testing procedures			
	Package vibration test			
	1. PSD: 0.026G²/Hz , 2.16 Grms			
	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			
	1. Wave form : Half Sine wave			
	2. Acceleration Rate : 20g for operation mode			
Mechanical Shock	3. Duration Time:11ms			
Test	4. No. of Shock : +/- X,Y,Z axis 3 times			
	5. Test Axis: +/- X,Y,Z axis			
	6. Operation mode			

	7. Reference IEC 60068-2-27 Testing procedures Test Eb : Shock Test			
	Package drop test			
Drop Test	1 One corner , three edges, six faces			
	2 ISTA 2A, IEC-60068-2-32 Test:Ed			
Operating	0~+50 degree C			
Temperature				
Operating Humidity	0~90% Relative Humidity, Non-condensing			
Storage Temperature	-20~60 degree			



Note: Specifications are subject to change without notice.

1.4 System Overview

1.4.1 I/O View



Connectors					
Label	Function	Note			
DC-IN	DC Power-in connector				
СОМ	6 x Serial port connector (default: 1RS485,3RS232,1GPIO,1NA)	DB-9 male connector			
VGA	VGA connector				
USB	4 x USB 3.0 connector				
LAN1/2	RJ-45 Ethernet 1/2				
HDMI	HDMI connector				
MIC IN	Mic-in audio jack				
LINE OUT	Line-out audio jack				
Power Switch	Power on button				

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0+02

1.5 System Dimensions







(Unit: mm)



For advanced information, please refer to:

1- EMX-SKLUP User's Manual.



Note: If you need more information, please visit our website: http://www.avalue.com.tw

2.1 ARC-1532-C2 connector mapping

2.1.1 Serial port 1 connector (COM1)





RS-232							
Signal	PIN	PIN	Signal				
DCD	1	6	DSR				
RXD	2	7	RTS				
TXD	3	8	CTS				
DTR	4	9	RI				
GND	5						

RS-422/485

Signal	PIN	PIN	Signal
		5	GND
422RX+	4	3	485TX+
422RX-	2	1	485TX-

2.1.2 Serial port 2/3/4/5/6 connector (COM2/3/4/5/6)



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Signal	PIN	PIN	Signal
DCD	1	6	DSR
RXD	2	7	RTS
TXD	3	8	CTS
DTR	4	9	RI
GND	5		

2.1.3 VGA connector (VGA)





PIN	Signal	PIN	Signal	PIN	Signal
1	RED	6	GND	11	NC
2	GREEN	7	GND	12	DDCDAT
3	BLUE	8	GND	13	HSYNC
4	NC	9	+5V	14	VSYNS
5	GND	10	GND	15	DDCCLK

2.2 Installing Mounting Brackets (ARC-1532-C2)



Step 1. Position brackets on both sides, matching the holes on the system.

Step 2. Insert and fasten screws on each side of the system to secure Mounting brackets.

2.3 Installing VESA Mounting (ARC-1532-C2)



Step 1. Insert and fasten screws on each side of the system to secure VESA Mounting.



Note:

If M.2 Type B 3042/2242/2260/2280 using PCI-e x2 device, it requires OEM BIOS ME setting; hence PCI-e slot is not workable.



Note:

SD card support list please refer to HW Storage Compatibility Test report.

2.5 EMX-SKLUP Jumper and Connector list

Jumpers			
Label	Function	Note	
JRI1/2/3/4/5/6	Serial port 1/2/3/4/5/6 pin9 signal select	3 x 2 header, pitch 2.00mm	
JSBKL1	LVDS Back Light power selection	3 x 1 header, pitch 2.00mm	
JSATX1	AT/ATX Power Mode Select	3 x 1 header, pitch 2.54mm	
JCOMS1	Clear CMOS	3 x 1 header, pitch 2.00mm	
Connectors			
Label	Function	Note	
FPT1	Miscellaneous setting connector 1	5 x 2 header, pitch 2.54mm	
FPT2	Miscellaneous setting connector 2	5 x 2 header, pitch 2.54mm	
SODIMM1/2	206-pin DDR4 SO-DIMM socket		
FAUD1	Front Audio connector	5 x 2 header, pitch 2.54mm	
JBKL1	LCD Inverter connector	5 x 1 wafer, pitch 2.00mm	
JSPI1	SPI connector	4 x 2 header, pitch 2.00mm	
JEC_SPI	EC Debug	5 x 2 header, pitch 2.00mm	
COM1	Serial Port 1 connector	5 x 2 header, pitch 2.00mm	
COM2	Serial Port 2 connector	5 x 2 header, pitch 2.00mm	
СОМЗ	Serial Port 3 connector	5 x 2 header, pitch 2.00mm	
COM4	Serial Port 4 connector	5 x 2 header, pitch 2.00mm	
COM5	Serial Port 5 connector	5 x 2 header, pitch 2.00mm	
COM6	Serial Port 6 connector	5 x 2 header, pitch 2.00mm	
DIO1	General purpose I/O connector	10 x 2 header, pitch 2.00mm	
SPK1	Speaker connector	4 x 1 wafer, pitch 2.00mm	
LVDS1	LVDS Connector	20 x 2 wafer, pitch 1.25mm	
USB1/2	USB connector 1/2		
USB3/4	USB connector 3/4	5 x 2 header, pitch 2.54mm	
SPDIF1	Sony/Philips Digital Interface	3 x 1 header, pitch 2.54mm	
LAN1/2	RJ-45 Ethernet 1/2		
PCIE1	PCIe connector		
LED1	LED indicator connector 1	4 x 1 header, pitch 2.00mm	
LED2	LED indicator connector 2	4 x 1 header, pitch 2.00mm	
BT1	Battery connector	2 x 1 wafer, pitch 1.25mm	

ARC-1532-C2

M2KA1	M.2 2230 Type A Slot	
M2KB1	M.2 3042/2242/2260/2280 Type B Slot	
DP1/2	DP connector 1/2	
EDP1	eDP_Panel connector	10 x 2 wafer, pitch 1.25mm
JRS485_1/2	Serial Port 1/2 RS485/422 Mode connector	3 x 2 header, pitch 2.00mm
JLPC	LPC connector	5 x 2 header, pitch 2.00mm
DCIN1	DC Power-in connector	
PWR1	Power connector	2 x 2 wafer, pitch 4.20mm
SATA1/2	Serial ATA connector 1/2	
SPWR1/2	SATA Power connector 1/2	4 x 1 wafer, pitch 2.54mm
I2C1	I2C connector	5 x 1 header, pitch 2.00mm
HDMI1	HDMI connector	
LOUT1	Line-out audio jack	
MIC1	Mic-in audio jack	
DMIC1	Mic-in connector	5 x 1 header, pitch 2.54mm
SD1	SD card slot	
SIM1	SIM card slot	
FAN1	CPU fan connector	4 x 1 wafer, pitch 2.54mm

2.6 EMX-SKLUP Jumper and Connector settings

2.6.1 Serial port 1/2/3/4/5/6 pin9 signal select (JRI1/JRI2/JRI3/JRI4/JRI5/JRI6)



Ring*



+5V



1	5

+12V

* Default

2.6.2 LVDS Back Light power selection (JSBKL1)



PWM Mode*

3	1

DC Mode



* Default

2.6.3 AT/ATX Power Mode Select (JSATX1)





* Default

2.6.4 Clear CMOS (JCOMS1)



* Default

Protect*



Clear CMOS







PIN	Signal	Max current
5	+5V	2A
4	LVDS_BKLTCTL	
3	LVDS_BKLT_EN	
2	GND	
1	+12V	2A

2.6.6 General purpose I/O connector (DIO1)



1					19

Signal	PIN	PIN	Signal
DI0	1	2	DO0
DI1	3	4	DO1
DI2	5	6	DO2
DI3	7	8	DO3
DI4	9	10	DO4
DI5	11	12	DO5
DI6	13	14	DO6
DI7	15	16	DO7
SMB_CLK_S	17	18	SMB_DATA_S
GND	19	20	+5V(Max current = 0.5A)

2.6.7 Serial port 1/2 connector (COM1/2)



1		9

Signal	PIN	PIN	Signal
DCD	1	2	RXD
TXD	3	4	DTR
GND	5	6	DSR
RTS	7	8	CTS
RI (Max current = 0.5A)	9	10	NC

2.6.8 Serial port 3/4/5/6 connector (COM3/4/5/6)



	9
	1

Signal	PIN	PIN	Signal
NC	10	10 9	RI
NC	10		(Max current = 0.5A)
CTS	8	7	RTS
DSR	6	5	GND
DTR	4	3	TXD
RXD	2	1	DCD

2.6.9 Serial Port 1/2 RS485/422 Mode connector (JRS485_1/2)



1	5

Signal	PIN	PIN	Signal
485_422TX-	1	2	422RX-
485_422TX+	3	4	422RX+
+5V (Max current = 0.5A)	5	6	GND

2.6.10 SATA Power connector 1/2 (SPWR1/2)





PIN	Signal	Max current
1	+V5S_SATA	1A
2	GND	
3	GND	
4	+V12S_SATA	1A



2.6.11 Power connector (PWR1)



Signal	PIN	PIN	Signal
GND	2	4	+VIN
GND	1	3	+VIN

2.6.12 USB connector 3 (USB3)





Signal	PIN	PIN	Signal
+V5A_USB78	1	2	+V5A_USB78
USB_DN7	3	4	USB_DN8
USB_DP7	5	6	USB_DP8
GND	7	8	GND
		10	NC

2.6.13 USB connector 4 (USB4)



7		1

Signal	PIN	PIN	Signal
+V5A_USB78	1	2	+V5A_USB78
USB_DN9	3	4	USB_DN10
USB_DP9	5	6	USB_DP10
GND	7	8	GND
		10	NC

2.6.14 Battery connector (BT1)





Signal	PIN
+3V	1
GND	2

2.6.15 LVDS connector (LVDS1)





Signal	PIN	PIN	Signal
+5V	2	1	+3.3V
+5V	4	3	+3.3V
NC	6	5	NC
GND	8	7	GND
LVDS_DATA0_P	10	9	LVDS_DATA1_P
LVDS_DATA0_N	12	11	LVDS_DATA1_N
GND	14	13	GND
LVDS_DATA2_P	16	15	LVDS_DATA3_P
LVDS_DATA2_N	18	17	LVDS_DATA3_N
GND	20	19	GND
LVDS_DATA4_P	22	21	LVDS_DATA5_P
LVDS_DATA4_N	24	23	LVDS_DATA5_N
GND	26	25	GND
LVDS_DATA6_P	28	27	LVDS_DATA7_P
LVDS_DATA6_N	30	29	LVDS_DATA7_N
GND	32	31	GND
LVDS_CLK1_P	34	33	LVDS_CLK2_P
LVDS_CLK1_N	36	35	LVDS_CLK2_N
GND	38	37	GND
+12V	40	39	+12V

2.6.16 Audio connector (FAUD1)





Signal	PIN	PIN	Signal
LINE2_JD	10	9	LINE2_LIN
		7	SENSE_B
MIC2_JD	6	5	LINE2_RIN
AUD_FRONT_DET	4	3	MIC2_RIN
GND	2	1	MIC2_LIN

2.6.17 EC Debug (JEC_SPI)



1		9

Signal	PIN	PIN	Signal
+3VSPI_EC	1	2	GND
EC_FSCE#	3	4	EC_FSCK
EC_FMISO	5	6	EC_FMOSI
EC_HOLD#	7	8	NC
EC_SMCLK	9	10	EC_SMDAT

2.6.18 SPI connector (JSPI1)



	7
	1

Signal	PIN	PIN	Signal
		7	HOLD#
SPI_SI	6	5	SPI_SO
SPI_CLK	4	3	SPI0_CS0#
GND	2	1	+3.3A_SPI

2.6.19 Sony/Philips Digital Interface (SPDIF1)



1

Signal	PIN
GND	3
SPDIF_OUT	2
+5V	1

2.6.20 Miscellaneous setting connector 1 (FPT1)





Signal	PIN	PIN	Signal
HD_LED+	1	2	PWR_LED+
HD_LED-	3	4	PWE_LED-
Reset+	5	6	PWR_BNT+
Reset-	7	8	PWR_BNT-
NC	9		

2.6.21 Miscellaneous setting connector 2 (FPT2)



1	
9	

Signal	PIN	PIN	Signal
Speaker+	1	2	BLK_VR(10K)
NC	3	4	BLK_UP
NC	5	6	BLK_DN
Speaker-	7	8	GND
NC	9	10	

Note:

1. Pin2 with GND: Control LVDS Backlight by use Variable Resistor.

2. BLK_UP with GND/BLK_DN with GND: Step control LVDS Backlight by use button and BIOS must to be set "BR Button". (Please refer to page.61)

2.6.22 LED indicator connector 1 (LED1)





Signal	PIN
LAN1_1000#_LED	4
LAN1_100#_LED	3
LAN1_ACT_N	2
LAN1_ACT_P	1

2.6.23 LED indicator connector 2 (LED2)



	1

Signal	PIN
LAN2_1000#_LED	4
LAN2_100#_LED	3
LAN2_ACT_N	2
LAN2_ACT_P	1

2.6.24 Speaker connector (SPK1)



Signal	PIN
SPK_R-	4
SPK_R+	3
SPK_L-	2
SPK_L+	1

2.6.25 Mic-in connector (DMIC1)





Signal	PIN
NC	5
DMIC_CLK	4
GND	3
DMIC_DATA	2
+3.3V	1

2.6.26 I2C connector (I2C1)



1		5

Signal	PIN
+3.3V	1
INT_I2C0#	2
I2C0_CLK	3
I2C0_DATA	4
GND	5

2.6.27 eDP_Panel connector (EDP1)



Note:

Default 3.3V.

This a BOM optional part.

1 19 J.....K

Signal	PIN	PIN	Signal
GND	1	2	GND
EDP_PanelTXN0	3	4	EDP_PanelTXN3
EDP_PanelTXP0	5	6	EDP_PanelTXP3
GND	7	8	NC
EDP_PanelTXN1	9	10	GND
EDP_PanelTXP1	11	12	EDP_PanelAUXN
GND	13	14	EDP_PanelAUXP
EDP_PanelTXN2	15	16	GND
EDP_PanelTXP2	17	18	EDP_Panel_HPD
+V3512_EDP	19	20	+V3512_EDP

2.6.28 LPC connector (JLPC)



1		9

Signal	PIN	PIN	Signal
LPC_AD0	1	2	+3.3V
LPC_AD1	3	4	PCH_PLTRST#
LPC_AD2	5	6	LPC_FRAME#
LPC_AD3	7	8	LPC_CLK
LPC_SERIRQ	9	10	GND

2.6.29 CPU fan connector (FAN1)





Signal	PIN
GND	1
+12V	2
CPU_FANIN	3
FAN_PWM0	4

2.6.30 HDMI1/DP1/DP2/LVDS1



Display	Location
HDMI	HDMI1
DP	DP1
DP++	DP2
LVDS	LVDS1

Display: 1 x DP++(DP2 connector), 1 x HDMI(HDMI1 connector), 1 x DP (DP1 connector), LVDS(LVDS1 connector)

Note: HDMI1 and DP1 share one circuit for display output depending on which monitor input is engaged. (Only one display port can be output, HDMI1 or DP1)

Triple display:

HDMI & DP++ & LVDS DP & DP++ & LVDS
Quick Reference Guide



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

The AMI BIOS[™] 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 or <F2> immediately after switching the system on, or By pressing the or <F2> key when the following message appears briefly at the left-top of the screen during the POST (Power On Self Test).

Press or <F2> 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. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to.

Press F1 to Continue, DEL to enter SETUP

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
$\uparrow \downarrow \rightarrow \leftarrow$	Move
Enter	Select
+/-	Value
Esc	Exit
F1	General Help
F2	Previous Values
F3	Optimized Defaults
F4	Save & Exit Setup
<k></k>	Scroll help area upwards
<m></m>	Scroll help area downwards

• 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 <Enter> key.

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 Ut Main Advanced Chipset Se	t <mark>ility – Copyright (C) 2017 American</mark> ecurity Boot Save & Exit	Megatrends, Inc.
	BIOS Information BIOS Vendor Core Version Compliancy Project Version Build Date and Time Access Level EC 8528 Firmware BIOS Name	American Megatrends 5.11 UEFI 2.4; PI 1.3 1ASDI 0.39 x64 03/01/2017 15:33:28 Administrator OC XSKLU00M	Platform Information
Þ	System Language Platform Information	[English]	
	System Time	[Fri 03/03/2017] [13:09:28]	<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 2.18.	.1263. Copyright (C) 2017 American M	Wegatrends, Inc.

Aptio Setup Utility – Main	Copyright (C) 2017 American) Megatrends, Inc.
Processor Information		
Name	SkyLake	
Brand String	Intel(R) Celeron(R) CPU	
	3955U @ 2.00GHz	
Frequency	1900 MHz	
Processor ID	406E3	
Stepping	D0/K0	
Number of Processors	2Core(s) / 2Thread(s)	
Microcode Revision	9E	
GT Info	GT1	
Memory RC Version	2.1.0.0	
Total Memory	16384 MB	
Memory Frequency	2133 MHz	↔: Select Screen
		T↓: Select Item
PCH Information		Enter: Select
Name	SKL PCH-LP	+/-: Change Opt.
PCH SKU	PCH-LP Mobile (U)	F1: General Help
	Premium SKU	F2: Previous Values
Stepping	21/01	F3: Uptimized Defaults
LAN PHY REVISION	82	F4: Save & Exit
NE EU Vereier	11 0 00 1000	ESU: EXIT
ME FIN VERSION	Copponate SKU	
ME TITIIWare SKU		
Version 2.18.1263. C	opyright (C) 2017 American M	legatrends, Inc.

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.

Aptio Setup Utility – Copyright (C) 2017 Americar Main <mark>Advanced C</mark> hipset Security Boot Save & Exit	Megatrends, Inc.
 Trusted Computing ACPI Settings AAT Configuration PCH-FW Configuration EC 8528 HW monitor S5 RTC Wake Settings Serial Port Console Redirection CPU Configuration Intel TXT Information SATA Configuration Network Stack Configuration CSM Configuration SDIO Configuration USB Configuration USB Configuration 	<pre>Trusted Computing Settings ++: Select Screen t1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.18.1263. Copyright (C) 2017American №	legatrends, Inc.

3.6.2.1 Trusted Computing

Aptio Setup Utility – Advanced	Copyright (C) 2017 American	Megatrends, Inc.
TPM20 Device Found Security Device Support Active PCR banks Available PCR banks TPM2.0 UEFI Spec Version Physical Presence Spec Version TPM 20 InterfaceType	[Enable] SHA-1,SHA256 SHA-1,SHA256 [TCG_2] [1.2] [TIS]	Enables or Disables BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INTIA interface will not be available.
		++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.18.1263. C	opyright (C) 2017 American M	egatrends, Inc.

Item	Options	Description
Security Device Support	Disable Enable [Default]	Enables or Disables BIOS support for security devices. O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available.

3.6.2.2 APCI Settings



Item	Options	Description
Enable Hibernation	Disabled Enabled [Default] ,	Enables or Disables System ability to Hibernate (OS/S4 Sleep State). This option may be not effective with some OS.
ACPI Sleep State	Suspend Disabled, S3 (Suspend to RAM) [Default]	Select the highest ACPI sleep state the system will enter when the SUSPEDN button is pressed.
ACPI Low Power S0 Idle	Disabled [Default] Enabled,	Enable or Disable ACPI Low Power S0 Idle Support.
ErP Function	Disabled [Default] Enabled,	ErP Function (Deep S5).
PWR-On After PWR-Fail	Off [Default] On Last state	AC loss resume.
Watch Dog	Disabled [Default] , 30 sec 40 sec 50 sec 1 min 2 min 10 min 30 min	Select WatchDog.
USB Standby Power Setting	Disabled Enabled [Default]	Enabled/Disabled USB Standby Power during S3/S4/S5.

3.6.2.3 AMT Configuration

Intel AMT Un-Configure ME	(Enabled) [Disabled]	Enable/Disable Intel (R) Active Management Technology BIDS Extension. Note : iAMT H/W is always enabled. This option just controls the BIDS extension execution. If enabled, this requires additional firmware in the SPI device ++: Select Screen f1: Select Item Enter: Select
		+/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

Item	Options	Description
Intel AMT	Disabled Enabled [Default] ,	Enable/Disable Intel® 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.
Un-Configure ME	Disabled [Default] Enabled,	OEMFlag Bit 15: Un-Configure ME without password.

3.6.2.4 PCH-FW Configuration

Aptio Setup Utility - Advanced	Copyright (C) 2017 American	Megatrends, Inc.
ME FW Version ME Firmware Mode ME Firmware Type ME Firmware SKU PTT Capability / State NFC Support ME Unconfig on RTC Clear State ME State ► Firmware Update Configuration	11.0.22.1000 Normal Mode Full Sku Firmware Corporate SKU 1 / 0 Disabled [Enabled] [Enabled]	Configure Management Engine Technology Parameters
		<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 2.18.1263. C	opyright (C) 2017 American M	egatrends, Inc.

3.6.2.4.1 Firmware Update Configuration

Me FW Image Re-Flash [Disabled] Enable/Disable Me FW Image Re-Flash function. **: Select Screen **: Select Screen 11: Select Item Enter: Select */-: Change Opt. F1: General Help F2: Previous Values F2: Previous Values	Aptio Se Advanced	tup Utility – Copyright (C) 2017 American	Megatrends, Inc.
++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values	Me FW Image Re-Flash	[Disabled]	Enable/Disable Me FW Image Re-Flash function.
F3: Optimized Defaults F4: Save 8 Exit ESC: Exit			<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>

Item	Options	Description
Me FW Image Re-Flash	Disabled [Default] , Enabled	Enable/Disable Me FW Image Re-Flash function.

3.6.2.5 IT8528 Super IO Configuration

You can use this item to set up or change the IT8528 Super IO configuration for serial ports. Please refer to 3.6.2.5.1~ 3.6.2.5.6 for more information.

Aptio Setup Utility - Advanced	Copyright (C) 2017 American	Megatrends, Inc.
IT8528 Super IO Configuration		Set Parameters of Serial Port 1 (COMA)
Super IO Chip ▶ Serial Port 1 Configuration ▶ Serial Port 2 Configuration	IT8528	
Super IO Chip > Serial Port 3 Configuration > Serial Port 4 Configuration > Serial Port 5 Configuration > Serial Port 6 Configuration	F81216	
		<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 2.18.1263. Co	pyright (C) 2017 American Me	egatrends, Inc.

Item	Description
Serial Port 1 Configuration	Set Parameters of Serial Port 1 (COMA).
Serial Port 2 Configuration	Set Parameters of Serial Port 2 (COMB).
Serial Port 3 Configuration	Set Parameters of Serial Port 3 (COMC).
Serial Port 4 Configuration	Set Parameters of Serial Port 4 (COMD).
Serial Port 5 Configuration	Set Parameters of Serial Port 5 (COME).
Serial Port 6 Configuration	Set Parameters of Serial Port 6 (COMF).

Aptio Setup Ut. Advanced	ility – Copyright (C) 2017 Ame	rican Megatrends, Inc.
Serial Port 1 Configuration		Change the Serial Port as
Serial Port Device Settings	[Enabled] IO=3F8h; IRQ=4;	13232/ 422/ 403
	UART 232 422 485 UART 232 UART 422 UART 485	++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

3.6.2.5.1 Serial Port 1 Configuration

Item	Option	Description
Serial Port	Enabled[Default],	Enable or Disable Serial Port (COM)
	Disabled	
	UART 232 [Default] ,	
UART 232 422 485	UART 422,	Change the Serial Port as RS232/422/485.
	UART 485	

3.6.2.5.2 Serial Port 2 Configuration

Aptio Setup Utilit Advanced	y – Copyright (C) 2017 America	n Megatrends, Inc.
Serial Port 2 Configuration		Change the Serial Port as
Serial Port Device Settings	[Enabled] IO=2F8h; IRQ=3;	1323274227403
UART 232 422 485		
	UART 232 422 485	
	UART 422 UART 485	++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Deneral Help
		F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.18.1263	3. Copyright (C) 2017 American	Megatrends, Inc.

ARC-1532-C2

Item	Option	Description	
Social Bort	Enabled [Default] ,	Enable or Disable Seriel Part (COM)	
Serial Port	Disabled	Enable of Disable Serial Port (COM).	
	UART 232 [Default] ,		
UART 232 422 485	UART 422,	Change the Serial Port as RS232/422/485.	
	UART 485		

3.6.2.5.3 Serial Port 3 Configuration

Aptio Setup Utility - Advanced	- Copyright (C) 2017 Ameri	ican Megatrends, Inc.
Serial Port 3 Configuration Serial Port Device Settings	[Enabled] IO=3E8h; IRQ=5;	Enable or Disable Serial Port (COM)
		<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.18.1263. (Copyright (C) 2017 America	an Megatrends, Inc.

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

3.6.2.5.4 Serial Port 4 Configuration

Aptio Setup Utility - Advanced	- Copyright	(C) 2017 American	Megatrends, Inc.
Serial Port 4 Configuration			Enable or Disable Serial Port
Serial Port Device Settings	[Enabled] IO=2E8h;	IRQ=5;	
			++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.18.1263. (Copyright (C) 2017 American M	egatrends, Inc.

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

3.6.2.5.5 Serial Port 5 Configuration

Aptio Setup Utility Advanced	– Copyright (C) 2017 Ameri	can Megatrends, Inc.
Serial Port 5 Configuration		Enable or Disable Serial Port
Serial Port Device Settings	[Enabled] IO=200h; IRQ=5;	
		<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 2.18.1263.	Copyright (C) 2017 America	n Megatrends, Inc.

Item	Option	Description
Corrigh Dort	Enabled [Default] ,	Enable or Disable Serial Port
Senal Port	Disabled	(COM).

3.6.2.5.6 Serial Port 6 Configuration

Aptio Setup Utility Advanced	– Copyright (C) 2017 Americ	can Megatrends, Inc.
Serial Port 6 Configuration		Enable or Disable Serial Port
Serial Port Device Settings	[Enabled] IO=208h; IRQ=5;	
		++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.18.1263.	Copyright (C) 2017 Americar	n Megatrends, Inc.

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

3.6.2.6 H/W Monitor

Aptio Setup Util: Advanced	ity – Copyright (C) 2017 Amer.	ican Megatrends, Inc.
Pc Health Status Smart Fan Function ▶ Smart Fan Mode Configuration	[Enabled]	Enable or Disable Smart Fan
CPU temperature Fan1 Speed VIN_L VCORE	: +33 C : 5557 RPM : +12.292 V : +0.984 V	
	Smart Fan Function — Disabled Enabled	++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.18.126	53. Copyright (C) 2017 America	an Megatrends, Inc.

ltem	Options	Description
Smart Fan Function	Disabled [Default] , Enabled	Enable or Disable Smart Fan.

3.6.2.6.1 Smart Fan Mode Configuration

Aptio Setup Utility – C Advanced	opyright (C) 2017 American	Megatrends, Inc.
Smart Fan Mode Configuration		CPU Smart Fan Mode Select
CPU Smart Fan Mode Fan PWM	[Manual Mode] 255	<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.18.1263. Cop	yright (C) 2017 American Me	egatrends, Inc.

ltem	Option	Description
CPU Smart Fan Mode	Manual Mode [Default] /Mode 01/Mode 02/Mode 03/Mode 04/Mode 05/Mode 06/Mode 07/Mode 08/Mode 09/Mode 10/Mode 11/Mode 12/Mode 13/Mode 14/Mode 15/Mode 16/Mode 17/Mode 18/Mode 19/Mode 20	CPU Smart Fan Mode Select.
Fan PWM	0-255	Fan PWM duty

3.6.2.7 S5 RTC Wake Settings

Aptio Setu Advanced) Utility – Copyright (C) 2017 Am	merican Megatrends, Inc.
Wake system from S5 Wake up day of week Wake up day Wake up hour Wake up minute Wake up second	[Fixed Time] [Disabled] 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	wake up day of week.(Monday-Friday) or (Monday-Saturday)
	Monday-Saturday	++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

Item	Options	Description
Wake system from S5	Disabled [Default] , Fixed Time Dynamic Time	Enable or disable System wake on alarm event. Select FixedTime, system will wake on the hr::min::sec specified. Select DynamicTime, System will wake on the current time + Increase minutes(s).
Wake up day of week	Disabled [Default] , Monday-Friday Monday-Saturday	Wake up day of week. (Monday-Friday) or (Monday-Saturday).
Wake up day	1-31	Select 0 for daily system wake up 1-31 for which day of the month that you would like the system to wake up.
Wake up hour	0-23	Select 0-23 For example enter 3 for 3am and 15 for 3pm.
Wake up minute	0-59	Select 0-23 For example enter 3 for 3am and 15 for 3pm.
Wake up second	0-59	Select 0-23 For example enter 3 for 3am and 15 for 3pm.



ltem	Options	Description
Wake system from S5	Disabled, Fixed Time Dynamic Time [Default]	Enable or disable System wake on alarm event. Select FixedTime, system will wake on the hr::min::sec specified. Select DynamicTime, System will wake on the current time + Increase minutes(s).
Wake up minute increase	1-5	1-5.

3.6.2.8 Serial Port Console Redirection

Aptio Setup Utility – (Advanced	Copyright (C) 2017 American	Megatrends, Inc.
COM1 Console Redirection ▶ Console Redirection Settings	[Disabled]	Console Redirection Enable or Disable.
COM1(Pci Bus0,Dev0,Func0) (Disabled) Console Redirection	Port Is Disabled	
Legacy Console Redirection ▶ Legacy Console Redirection Settings		
Serial Port for Out-of-Band Managemen Windows Emergency Management Service:	nt∕ s (EMS)	
Console Redirection • Console Redirection Settings	[Disabled]	<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 2.18.1263. Co	pyright (C) 2017 American M	egatrends, Inc.

Item	Options	Description	
Console Redirection	Disabled[Default],	Console Redirection Enable or Disable	
	Enabled		

3.6.2.8.1 COM1

Aptio Setup Utility - Advanced	– Copyright (C) 2017 Americar	n Megatrends, Inc.
COM1 Console Redirection Settings Terminal Type Bits per second Data Bits Parity Stop Bits	[ANSI] [115200] [8] [None] [1]	Emulation: ANSI: Extended ASCII char set. VT100: ASCII char set. VT100+: Extends VT100 to support color, function keys, etc. VT–UTF8: Uses UTF8 encoding to map Unicode chars onto 1 or more bytes.
Flow Control VT-UTF8 Combo Key Support Recorder Mode Resolution 100x31 Legacy OS Redirection Resolution Putty KeyPad Redirection After BIOS POST	[None] [Enabled] [Disabled] [Disabled] [80x24] [VT100] [Always Enable]	++: Select Screen fl: Select Item
		Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.18.1263. 1	Copyright (C) 2017 American ⊧	legatrends. Inc.

ltem	Option	Description
Terminal Type	VT100 VT100+ VT-UTF8 ANSI [Default]	Emulation: ANSI: Extended ASCII char set. VT100: ASCII char set. VT100+: Extends VT100 to support color, function keys, etc. VT-UTF8: Uses UTF8 encoding to map Unicode chars onto 1 or more bytes.
Bits per second	9600 19200 38400 57600 115200 [Default]	Select serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds.
Data Bits	7 8 [Default]	Data Bits.
Parity	None [Default] Even Odd Mark Space	A parity bit can be sent with the data bits to detect some transmission errors. Even: parity bit is 0 if the num of 1's in the data bits is even. Odd:parity bit is 0 if num of 1's in the data bits is odd. Mark: parity bit is always 1. Space: Parity bit is always 0. Mark and Space Parity do not allow for error detection. They can be used as and additional data bit.
Stop Bits	1 [Default] 2	Stop bits indicate the end of a serial data packet. (A start bit indicates the beginning). The standard setting is 1 stop bit. Communication

	with slow devices may require more than 1 stop	
		bit.
Flow Control	None [Default] Hardware RTS/CTS	Flow control can prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a 'stop' signal can be sent to stop the data flow. Once the buffers are empty, a 'start' signal can be sent to re-start the flow. Hardware flow control uses two wires to send start/stop signals.
VT-UTF8 Combo Key	Disabled	Enable VT-UTF8 Combination Key Support for
Support	Enabled[Default]	ANSI/VT100 terminals.
Pecorder Mode	Disabled[Default]	With this mode enabled only text will be sent.
	Enabled	This is to capture Terminal data.
Resolution 100x31 Disabled[Defa	Disabled[Default]	Enables or disables extended terminal
	Enabled	resolution.
Legacy OS Redirection	80x24[Default]	On Legacy OS, the Number of Rows and
Resolution	80x25	Columns supported redirection.
Putty KeyPad	VT100 [Default] LINUX XTERMR6 SCO ESCN VT400	Select FunctionKey and KeyPad on Putty.
Redirection After BIOS POST	Always Enable [Default] Boot Loader	When Bootloader is selected, then Legacy Console Redirection is disabled before booting to legacy OS. When Always Enabled is selected, then Legacy Console Redirection is enabled for legacy OS. Default setting for this option is set to Always Enable.

3.6.2.9 CPU Configuration

Use the CPU configuration menu to view detailed CPU specification and configure the CPU.

Aptio Setup Utility Advanced	– Copyright (C) 2017 America	n Megatrends, Inc.
CPU Configuration		4
Intel(R) Celeron(R) CPU 3955U @ 2. CPU Signature Microcode Patch Max CPU Speed Min CPU Speed CPU Speed Processor Cores Hyper Threading Technology Intel VT-× Technology G4-bit EIST Technology CPU C3 state CPU C3 state CPU C3 state CPU C4 state CPU C5 state CPU C9 state CPU C0 state L1 Data Cache L2 Cache L3 Cache	00GHz 406E3 9E 2000 MHz 400 MHz 1900 MHz 2 Not Supported S	<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>
Aptio Setup Utility	– Copyright (C) 2017 America	n Megatrends, Inc.
Advanced		
Processor Cores Hyper Threading Technology Intel VT-x Technology Intel SMX Technology 64-bit EIST Technology CPU C3 state CPU C3 state CPU C6 state CPU C6 state CPU C8 state CPU C9 state CPU C10 state	2 Not Supported Supported Supported Supported Supported Supported Supported Supported Supported Supported Supported Supported	Package C State limit
L1 Code Cache L2 Cache L3 Cache L4 Cache Active Processor Cores Overclocking lock Intel Virtualization Technology Turbo Mode CPU C states Package C State limit	22 KB X 2 256 KB X 2 2 MB Not Present [A11] [Disabled] [Enabled] [Enabled] [Enabled] [Enabled] [AUTO]	11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

Item	Options	Description
Active Processor Cores	All [Default] 1	Number of cores to enable in each processor package.

Overclocking lock	Disabled [Default] , Enabled	FLEX_RATIO(194) MSR.
Intel Virtualization Technology	Disabled, Enabled [Default]	When enabled, a VMM can utilize the additional hardware capabilities provided by Virtualization Technology.
Turbo Mode	Disabled, Enabled [Default]	Turbo Mode.
CPU C states	Disabled, Enabled [Default]	Enable or disable CPU states.
Package C State limit	C0/C1 C2 C3 C6 C7 C7s C8 C9 C10 Auto[Default]	Package C State limit.

3.6.2.10 Intel TXT Information

Aptio Advanced	Setup Utility – Copyright (C) 2017	American Megatrends, Inc.
Intel TXT Informati	on	
Chipset BiosAcm Chipset Txt Cpu Txt Error Code Class Code Major Code Minor Code	Production Fused Debug Fused Not Supported None None None None	++: Select Screen 1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Vers	ion 2.18.1263. Copyright (C) 2017 Am	merican Megatrends, Inc.

3.6.2.11 SATA Configuration

Aptio Setup Advanced	Utility – Copyright (C) 2017 Americar	n Megatrends, Inc.
SATA Controller(s) SATA Test Mode Aggressive LPM Support SATA Controller Speed Serial ATA Port 0(M.2) Software Preserve Port 1 SATA Device Type Serial ATA Port 1 SATA Device Type Serial ATA Port 2 Software Preserve Port 2 SATA Device Type	[Enabled] [Disabled] [Disabled] [Default] Empty Unknown [Enabled] [Solid State Drive] Empty Unknown [Enabled] [Hard Disk Drive] Empty Unknown [Enabled] [Hard Disk Drive]	Enable PCH to aggressively enter link power 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.:	18,1263, Copyright (C) 2017 American M	legatrends. Inc.

Item	Options	Description
SATA Controllor(c)	Disabled,	Enable or disable SATA Device
SATA Controller(s)	Enabled[Default]	Enable of disable SATA Device.
SATA Test Mede	Disabled[Default],	Tast Mada Enable/Disable (Lean Back)
SATA Test Mode	Enabled	Test Mode Effable/Disable (Loop Back).
Aggrossiva I PM Support	Disabled[Default],	Enable PCH to aggressively enter link power
Aggressive LFM Support	Enabled	state.
SATA Controller Speed	Default[Default]	
	Gen1	Indicates the maximum speed the SATA
	Gen2	controller can support.
	Gen3	
	Disabled	
Port1/2	Enabled[Default]	Enable/Disable SATA Port.
	Enabled[Doldant]	
SATA Device Type	Hard Disk Drive	Identify the SATA port is connected to Solid
	Solid State Drive[Default]	State Drive or Hard Disk Drive.

3.6.2.12 Network Stack Configuration

Network Stack [Enabled] Enable/Disable UEFI Network Ipv4 PXE Support [Enabled] Stack Ipv6 PXE Support [Enabled] Stack PXE boot wait time 0 Media detect count 1 Media detect count 1 Image: Stack interval	Aptio Setup Utility Advanced) – Copyright (C) 2017 America	an Megatrends, Inc.
	Network Stack Ipv4 PXE Support Ipv6 PXE Support PXE boot wait time Media detect count	[Enabled] [Enabled] 0 1 Network Stack Disabled Enabled	Enable/Disable UEFI Network Stack ++: Select Screen fl: Select Item Enter: Select +/-: Change Out.
F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit			F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

Item	Options	Description
Network Stack	Enabled Disabled [Default]	Enable/Disable UEFI Network Stack.
Inva DVE Support	Disabled	Enable Ipv4 PXE Boot Support. If disabled
ipv4 PXE Support	Enabled[Default]	IPV4 PXE boot option will not be created.
Ipv6 PXE Support	Disabled Enabled [Default]	Enable Ipv6 PXE Boot Support. If disabled
		IPV6 PXE boot option will not be created.
DVE beet weit time	0	Wait time to press ESC key to abort the PXE
PAE boot wait time		boot.
Media detect count	1	Number of times presence of media will be
		checked.

3.6.2.13 CSM Configuration

Aptio Setup Utility – Copyright (C) 2017 American Megatrends, Inc. Advanced		
Compatibility Support Module Confi	iguration	Enable/Disable CSM Support.
CSM Support		
CSM16 Module Version	N/A, reset required	
GateA2O Active Option ROM Messages INT19 Trap Response	[Upon Request] [Force BIOS] [Immediate]	
Boot option filter	[Legacy only]	
Option ROM execution		++: Select Screen
Network Storage Video Other PCI devices	[Do not launch] [Legacy] [Legacy] [Legacy]	t↓: Select Item Enter: Select +/-: Change Opt. F1: General Help
		F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.18.1263. Copyright (C) 2017 American Megatrends, Inc.		

ltem	Options	Description
CSM Support	Enabled [Default] Disabled,	Enable/Disable CSM Support.
GateA20 Active	Upon Request [Default] Always	UPON REQUEST – GA20 can be disabled using BIOS services. ALWAYS – do not allow disabling GA20; this option is useful when any RT code is executed above 1MB.
Option ROM Messages	Force BIOS [Default] Keep Current	Set display mode for Option ROM.
INT19 Trap Response	Immediate [Default] Postponed	BIOS reaction on INT19 trapping by Option ROM: IMMEDIATE – execute the trap right away; POSTONED – execute the trap during legacy boot.
Boot option filter	UEFI and Legacy Legacy only [Default] UEFI only	This option controls Legacy/UEFI ROMs priority.
Network	Do not launch [Default] UEFI Legacy	Controls the execution of UEFI and Legacy PXE OpROM.
Storage	Do not launch UEFI Legacy [Default]	Controls the execution of UEFI and Legacy Storage OpROM.
Video	Do not launch UEFI Legacy [Default]	Controls the execution of UEFI and Legacy Video OpROM.
Other PCI devices	Do not launch UEFI Legacy [Default]	Determines OpROM execution policy for devices other than Network, Storage, or Video.

3.6.2.14 SDIO Configuration

Aptio Setup Advanced	Utility – Copyright (C) 201	7 American Megatrends, Inc.
SDIO Configuration		Auto Option: Access SD device
	(Auto) Auto ADMA SDMA PIO	de
		1↓: Select Item Enter: Select +/-: Change Ont
		F1: General Help F2: Previous Values
		F3: Optimized Defaults F4: Save & Exit ESC: Exit
		•
Version 2.	18.1263. Copyright (C) 2017	American Megatrends, Inc.

Item	Options	Description
SDIO Access Mode	Auto [Default] ADMA SDMA PIO	Auto Option: Access SD device in DMA mode if controller supports it, otherwise in PIO mode. DMA Option: Access SD device in DMA mode. PIO Option: Access SD device in PIO mode.

3.6.2.15 USB Configuration

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

Aptio Setup Utility – Advanced	Copyright (C) 2017 American	Megatrends, Inc.
USB Configuration		Enable/Disable USB Mass
USB Module Version	17	storage priver support.
USB Controllers: 1 XHCI		
USB Devices: 1 Drive, 1 Keyboard, 1 Mouse,	1 Hub	
Legacy USB Support XHCI Hand-off USB Mass Storage Driver Support	[Enabled] [Enabled] [Enabled]	
PUPE BOZO4 EMUTACION	(DISADIEU)	++: Select Screen
USB hardware delays and time-outs:	[20, 200]	T4: Select Item
Device reset time-out	[20 Sec]	+/-: Change Ont
Device power-up delay	[Auto]	F1: General Help
		F2: Previous Values
Mass Storage Devices:		F3: Optimized Defaults
hp v220w 1100	[Auto]	F4: Save & Exit ESC: Exit
Version 2.18.1263. Co	opyright (C) 2017 American M	egatrends, Inc.

ltem	Options	Description
Legacy USB Support	Enabled [Default] Disabled Auto	Enables Legacy USB support. AUTO option disables legacy support if no USB devices are connected. DISABLE option will keep USB devices available only for EFI applications.
XHCI Hand-off	Enabled [Default] Disabled	This is a workaround for OSew without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.
USB Mass Storage Driver Support	Enabled [Default] Disabled	Enable/Disable USB Mass Storage Driver Support.
Port 60/64 Emulation	Enabled Disabled [Default]	Enables I/O port 60h/64h emulation support. This should be enabled for the complete USB keyboard legacy support for non-USB aware OSes.
USB transfer time-out	1 sec 5 sec 10 sec 20 sec [Default]	The time-out value for Control, Bulk, and Interrupt transfers.
Device reset time-out	10 sec 20 sec [Default] 30 sec 40 sec	USB mass storage device Start Unit command time-out.
Device power-up delay	Auto [Default] 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] Floppy Forced FDD Hard Disk CD-ROM	Mass storage device emulation type. 'AUTO' enumerates devices according to their media format. Optical drives are emulated as 'CDROM', drives with no media will be emulated according to a drive type.

3.6.3 Chipset

Main	Aptio Setup Advanced Chipset	Utility – Security	Copyrigh Boot Sa	nt (C) 2017 ave & Exit	American	Megatrends,	Inc.
· System · PCH-IO	Agent (SA) Configu Configuration	ration				System Agent ++: Select S 11: Select 1) Enter: Select +/-: Change F1: General F2: Previous F3: Optimize F4: Save & E ESC: Exit	Screen Item Item St Opt. Help Values Id Defaults Itit
	Version 2.	18.1263. Co		(C) 2017 A	merican Me	egatrends, Ir	

3.6.3.1 System Agent (SA) Configuration

Aptio Setup Chipset	Utility – Copyright (C) 2017	7 American Megatrends, Inc.
System Agent Bridge Name SA PCIe Code Version VT–d	Skylake 2.1.0.0 Supported	Memory Configuration Parameters
VT-d	[Enabled]	
 ▶ Graphics Configuration ▶ Memory Configuration 		
		<pre>fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.:	18.1263. Copyright (C) 2017 f	American Megatrends, Inc.

Item	Option	Description
VT-d	Enabled [Default] Disabled	VT-d capability.

3.6.3.1.1 Graphics Configuration

Aptio Setup Utility - Chipset	Copyright (C) 2017 American	Megatrends, Inc.
Graphics Configuration		Active Internal LVDS(eDP->Ch7511-to-LVDS)
Active LVDS(Ch7511) CH7511 EDID Panel Option Brightness Control Method LVDS Back Light PWM LVDS Back Light PWM Frequency	[Enabled] [1024x768 24/1] [BI0S] [100%] [200]	
		<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 2.18.1263. Co	pyright (C) 2017 American M	legatrends, Inc.

ltem	Option	Description
	Enabled[Default]	Active Internal
Active LVDS(CH7511)	Disabled	LVDS(eDP->Ch7511-to-LVDS).
	1024x768 24/1[Default]	
	800x600 18/1	
	1024x768 18/1	
	1366x768 18/1	
	1024x600 18/1	
	1280x800 18/1	
CH7511 EDID Banal Ontion	1920x1200 24/2	Port1-EDP to LVDS (Chrotel 7511)
CH7311 EDID Panel Option	1920x1080 18/2	Panel EDID Option.
	1280x1024 24/2	
	1440x900 18/2	
	1600x1200 24/2	
	1366x768 24/1	
	1920x1080 24/2	
	1680x1050 24/2	
	BIOS[Default]	IVDS Brightness Control Mathed
Brightness Control Mothod	BR Button	1 PIOS 2 Prightness Control Method.
Biginness Control Method	VR	2 Variable Register 4 OS Driver
	OS driver	
	00%	
	25%	
	50%	Soloot LV/DS book light DW/M duty
LVDS DACK LIGHT FWW	75%	Select LVDS back light F WW duty.
	100% [Default]	

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	200[Default]	
	300	
	400	
	500	
	700	Salaat LVDS baak light DWM
	1k	Select LVDS back light PWM
Frequency	2k	Frequency.
	Зk	
	5k	
	10k	
	20k	

3.6.3.1.2 Memory Configuration

Aptio Setup Utility - Chipset	Copyright (C) 2017 Amer	rican Megatrends, Inc.
Memory Configuration Memory RC Version Memory Frequency Total Memory VDD DIMM#0 DIMM#2 Memory Timings (tCL-tRCD-tRP-tRAS)	2.1.0.0 2133 MHz 16384 MB 1200 16384 MB Not Present 15-35	Maximum Value of TOLUD. Dynamic assignment would adjust TOLUD automatically based on largest MMIO length of installed graphic controller
Max TOLUD	[Dynamic]	<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.18.1263. Co	opyright (C) 2017 Americ	can Megatrends, Inc.

Item	Option	Description
Max TOLUD	Dynamic [Default] /1GB/1.25GB/1.5GB/1.75GB /2GB/2.25GB/2.5GB/2.75GB	Maximum Value of TOLUD. Dynamic assignment would adjust TOLUD automatically based on largest MMIO length of installed graphic controller.

3.6.3.2 PCH-IO Configuration

	Aptio Setup Utility – <mark>Chipset</mark>	Copyright (C) 2017 American	Megatrends, Inc.
	Intel PCH RC Version Intel PCH SKU Name Intel PCH Rev ID	2.1.0.0 PCH-LP Mobile (U) Premium SKU 21/C1	Enable or disable onboard NIC.
* * * *	PCI Express Configuration USB Configuration HD Audio Configuration SCS Configuration		
	PCH LAN Controller		++: Select Screen †↓: Select Item Enter: Select
			+/-: Change Upt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
	Version 2.18.1263. C	opyright (C) 2017 American Me	egatrends, Inc.

Item	Option	Description
PCH LAN Controller	Disabled Enabled [Default]	Enable or disable onboard NIC.

3.6.3.2.1 PCI Express Configuration

Aptio Setup Utility – Copyright (C) 2017 American <mark>Chipset</mark>	Megatrends, Inc.
PCI Express Configuration	PCI Express Root Port 5 Settings.
<pre>PCIE Port 4 is assigned to LAN PCI Express Root Port 5(i210/211) PCI Express Root Port 6(PCIe Slot) PCI Express Root Port 7(M.2 KeyB share SATA) PCI Express Root Port 8(M.2 KeyB) PCI Express Root Port 9(M.2 KeyA)</pre>	
	<pre>++: Select Screen t1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.18.1263. Copyright (C) 2017 American M	egatrends, Inc.

	and the second state of the		
Aptio Setu Chinset	o utility – Copyright (L) 2017 American	Megatrends, Inc.
Chipset			
PCI Express Root Port 5 ASPM Support L1 Substates PCIe Speed	[Enabled] [Disabled] [Disabled] [Auto]		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 & Exit ESC: Exit</pre>

3.6.3.2.1.1 PCI Express Root Port 5 (i210/211)

Item	Option	Description	
PCI Express Root Port 5	Enabled [Default] ,	Control the PCI Express Root Port.	
	Disabled[Default]		
	LOs	Set the ASPM Level: Force L0s – Force all	
ASPM Support	L1	links to L0s State AUTO – BIOS auto	
	L0sL1	configure DISABLE – Disables ASPM.	
	Auto,		
	Disabled[Default]		
1 1 Substates	L1.1	DCI Everage 14 Substates actings	
LI Substates	L1.2	POI Express LT Substates settings.	
	L1.1 & L1.2,		
	Auto[Default]		
DCIa Speed	Gen1	Salast DCI Everses part anosad	
r die Speed	Gen2	Select FOI Express poll speed.	
	Gen3		

	Aptio Setup Uti	lity – Copyright (C) 2017 Ame	erican Megatrends, Inc.
PCI Express R ASPM Support L1 Substates PCIe Speed	Root Port 6	[Enabled] [Disabled] [L1.1 & L1.2] [Auto]	Control the PCI Express Root Port.
			<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>

3.6.3.2.1.2 PCI Express Root Port 6 (PCIe Slot)

Item	Option	Description
PCI Express Root Port 6	Enabled[Default],	Control the PCI Express Root Port
	Disabled	
	Disabled[Default]	
	LOs	Set the ASPM Level: Force L0s – Force all
ASPM Support	L1	links to L0s State AUTO – BIOS auto
	L0sL1	configure DISABLE – Disables ASPM.
	Auto,	
	Disabled	
14 Substates	L1.1	PCI Express L1 Substates settings.
LI Substates	L1.2	
	L1.1 & L1.2[Default]	
	Auto[Default]	
PCIa Speed	Gen1	Salact PCI Express part speed
Fole Speed	Gen2	Select FOI Express port speed.
	Gen3	

Aptio Setup Uti Chipset	lity – Copyright (C) 2017 Ame	erican Megatrends, Inc.
PCI Express Root Port 7 ASPM Support L1 Substates PCIe Speed	[Enabled] [Disabled] [L1.1 & L1.2] [Auto]	Control the PCI Express Root Port.
		<pre>++: Select Screen ↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>

3.6.3.2.1.3 PCI Express Root Port 7 (M.2 KeyB share SATA)

ltem	Option	Description	
PCI Express Root Port 7	Enabled [Default] , Disabled	Control the PCI Express Root Port.	
	Disabled[Default]		
	LOs	Set the ASPM Level: Force L0s – Force all	
ASPM Support	L1	links to L0s State AUTO – BIOS auto	
	L0sL1	configure DISABLE – Disables ASPM.	
	Auto,		
	Disabled		
14 Substates	L1.1	PCI Express L1 Substates settings.	
LI Substates	L1.2		
	L1.1 & L1.2[Default]		
	Auto[Default]		
PCIa Speed	Gen1	Salast DCI Everage part apond	
r die Speed	Gen2	Select FOI Express poll speed.	
	Gen3		

Aptio Setup Chipset	Utility – Copyright (C) 2017 American	Megatrends, Inc.
PCI Express Root Port 8 ASPM Support L1 Substates PCIe Speed	[Enabled] [Disabled] [L1.1 & L1.2] [Auto]	Control the PCI Express Root Port. +: Select Screen 1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2	19 1962 - Conunight (C) 2017 Amonicon M	erateande Tec

3.6.3.2.1.4 PCI Express Root Port 8 (M.2 KeyB)

Item	Option	Description	
PCI Express Root Port 8	Enabled [Default] , Disabled	Control the PCI Express Root Port.	
	Disabled[Default]		
	LOs	Set the ASPM Level: Force L0s – Force all	
ASPM Support	L1	links to L0s State AUTO – BIOS auto	
	L0sL1	configure DISABLE – Disables ASPM.	
	Auto,		
	Disabled		
14 Substates	L1.1	DCI Everges 1.1 Substates actings	
LI Substates	L1.2	POI Express LT Substates settings.	
	L1.1 & L1.2[Default]		
	Auto[Default]		
PCIa Speed	Gen1	Salast DCI Everage part apoad	
Fole Speed	Gen2	Select FOI Express port speed.	
	Gen3		

	Aptio Setup Utility	– Copyright (C) 2017 Americ	can Megatrends, Inc.
	Chipset		
PCI Express R ASPM Support L1 Substates PCIe Speed		[Enabled] [Disabled] [L1.1 & L1.2] [Auto]	Control the PCI Express Root Port.
			<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>

3.6.3.2.1.5 PCI Express Root Port 9 (M.2 KeyA)

Item	Option	Description
PCI Express Root Port 9	Enabled [Default] , Disabled	Control the PCI Express Root Port.
	Disabled[Default]	
	LOs	Set the ASPM Level: Force L0s – Force all
ASPM Support	L1	links to L0s State AUTO – BIOS auto
	L0sL1	configure DISABLE – Disables ASPM.
	Auto,	
	Disabled	
1 1 Substatos	L1.1	PCI Express I 1 Substates settings
LT Substates	L1.2	FOI Express LT Substates settings.
	L1.1 & L1.2[Default]	
PCIe Speed	Auto[Default]	
	Gen1	Solact PCI Express part speed
	Gen2	Select FOI Expless poil speed.
	Gen3	

3.6.3.2.2 USB Configuration

Aptio Setup Utility - Chipset	Copyright (C) 2017 American	Megatrends, Inc.
USB Configuration		Precondition work on USB host
USB Precondition		faster enumeration.
XHCI Disable Compliance Mode	[FALSE]	
		++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.18.1263. Co	pyright (C) 2017 American M	egatrends, Inc.

Item	Option	Description	
USB Precondition	Enabled	Precondition work on USB host controller	
	Disabled[Default],	and root ports for faster enumeration.	
XHCI Disable Compliance Mode	FALSE [Default] , TRUE	Option to disable Compliance Mode. Default	
		is FALSE to not disable Compliance Mode.	
		Set TRUE to disable Compliance Mode.	

3.6.3.2.3 HD Audio Configuration

	Aptio Setup Utility – Copyright Chipset	(C) 2017 American	Megatrends, Inc.
HD Audio Con	figuration		
HD Audio	[Auto]		
			<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
	 Version 2.18.1263. Copyright (C) 2017 American M	egatrends, Inc.

Item	Option	Description
		Control Detection of the HD-Audio device.
	Disabled	Disable = HDA will be unconditionally
HD Audio	Enabled	disabled Enabled = HDA will be
	Auto[Default],	unconditionally enabled Auto = HDA will be
		enabled if present, disabled otherwise.

3.6.3.2.4 SCS Configuration

	Aptio Setup Utility - Chipset	Copyright (C) 2017 Americar	Megatrends, Inc.
SCS Configurat eMMC 5.0 Contr SDCard 3.0 Cor	tion roller ttroller	[Disabled] [Enabled]	Enable or Disable SCS eMMC 5.0 Controller
			++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
	Version 2.18.1263. Co	pyright (C) 2017American M	egatrends, Inc.

Item	Option	Description	
oMMC 5.0 Controllor	Disabled[Default]	Enable or Disable SCS eMMC 5.0 Controller.	
emmic 5.0 controller	Enabled		
SDCard 3.0 Controller	Disabled	Enable or Disable SCS SDHC 2.0 Controller	
	Enabled[Default]	Ellable of Disable 3C3 3DHC 3.0 Controller.	
3.6.4 Security

Aptio Setup Ut Main Advanced Chipset Se	ility – Copyright (C) 201 curity Boot Save & Exit	7 American Megatrends, Inc.
Password Description		Set Administrator Password
If ONLY the Administrator's then this only limits access only asked for when entering If ONLY the User's password is a power on password and m boot or enter Setup. In Setu have Administrator rights. The password length must be in the following range: Minimum length	password is set, to Setup and is Setup. is set, then this ust be entered to p the User will	
Administrator Password User Password	20	++: Select Screen 14: Select Item Enter: Select (: Select
▶ Secure Boot menu		F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.18.	1263. Copyright (C) 2017 (American Megatrends, Inc.

• Administrator Password

Set setup Administrator Password

• User Password

Set User Password

3.6.4.1 Secure Boot menu

Aptio Setup	Utility – Copyright (C) 2017 A Security	merican Megatrends, Inc.
System Mode Secure Boot Vendor Keys Secure Boot Secure Boot Mode Key Management	Setup Not Active Not Active [Disabled] [Custom]	Enables experienced users to modify Secure Boot variables
		<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.	18.1263. Copyright (C) 2017 Ame	rican Megatrends, Inc.

ltem	Option	Description
Secure Boot	Disabled [Default] Enabled	Secure Boot can be enabled if 1.System running in User mode with enrolled Platform Key(PK) 2.CSM function is disabled.
Secure Boot Mode	Standard Custom [Default]	Secure Boot mode selector. 'Custom' Mode enables users to change Image Execution policy and manage Secure Boot Keys.

3.6.4.1.1 Key Management

Aptio Setup Ut: Sec	ility – Copyright (C) 2017 American curity	Megatrends, Inc.
Provision Factory Default key ▶ Enroll all Factory Default ke ▶ Save all Secure Boot variab	ys [Disabled] eys bles	Force System to User Mode – install all Factory Default keys(PK,KEK,db,dbt,dbx). Change takes effect after reboot
Secure Boot variable Size > Platform Key(PK) 0 > Key Exchange Keys 0 > Authorized Signatures 0 > Forbidden Signatures 0 > Authorized TimeStamps 0	Key# Key source 0 0 0 0	
		<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 2.18.3	1263. Copyright (C) 2017 American Me	gatrends, Inc.

Item	Option	Description
Provision Factory Default keys	Disabled[Default]	Install factory default Secure Boot keys when
	Enabled	System is in Setup Mode.

3.6.5 Boot



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ltem	Option	Description
Setup Prompt Timeout	1~ 65535	Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.
Bootup NumLock State	On [Default] Off	Select the Keyboard NumLock state
Fast Boot	Disabled [Default] Enabled	Enables or disables boot with initialization of a minimal set of devices required to launch active boot option. Has no effect for BBS boot options.
Boot Option #1	Set the system boot ord	er.

3.6.6 Save and exit

Aptio Setup Utility – Copyright (C) 2017 American Main Advanced Chipset Security Boot <mark>Save & Exit</mark>	Megatrends, Inc.
Save Options Save Changes and Reset Discard Changes and Reset	Reset the system after saving the changes.
Default Options Restore Defaults	
Boot Override UEFI: hp v220w 1100, Partition 1 Launch EFI Shell from filesystem device	
	<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 2.18.1263, Copyright (C) 2017 American M	gatrends. 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 Defaults

Restore/Load Default values for all the setup options.

3.6.6.4 Launch EFI Shell from filesystem device

Attempts to Launch EFI Shell application (Shell.efi) from one of the available filesystem devices.

