

ROC285B series

19" 1U Rack-mount
Intel® Q370 Rugged System



Safety information

Electrical safety

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

Operation safety

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

Statement

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Revision History

Revision	Date (yyyy/mm/dd)	Changes
V1.0	2019/9/23	Initial release

Packing list

- 19" 1U Rack-mount Intel® Q370 Fanless Rugged System
- Accessories

Item	Description	Q'ty
1	Driver CD	1
2	Bracket Ear	2
3	Screw for fixing Bracket Ear M4 L:7.8mm	6



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

Ordering information

Model Number	Description
ROC285B	1U Rackmount Fanless System with Intel® Q370, 3 x DisplayPort, 1 x PCIe16 slot, 90~264V AC-In, operating Temp -20 to 60°C
ROC285BB	1U Rackmount Fanless System with Intel® Q370, 3 x DisplayPort, 1 x PCIe16 slot, 90~264V Redundant AC-In, operating Temp -20 to 60°C

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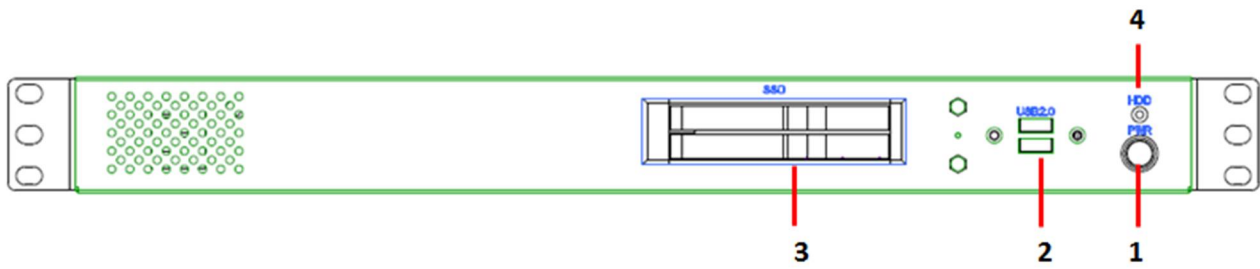
Chapter 1: Product Introduction

1.1 Key Features

System	
CPU Type	Intel® 14nm Coffee Lake-S Processor (Desktop) socket (LGA1151) Core™ i7-8700T 2.4 GHz (12M Cache, 25W) Core™ i5-8500T 2.1 GHz (9M Cache, 25W) Core™ i3-8100T 3.1 GHz (6M Cache, 25W)
Chipset	Intel® Q370
Memory Type	2 x SO-DIMM DDR4 2133/2400 MHz up to 64 GB
Expansion Slot	1 x Mini PCIe 1 x M.2 (Key E, 2230)with PCIe1 and USB2.0 1 x M.2 (Key M, 2242/2260/2280) with PCIe4 and SATA3 for SSD
Storage Device	2 x 2.5" Easy Swap SSD
Front I/O	
Power Button	1 x (with LED indicator)
HDD LED	1
2.5" HDD/SSD Tray	2
USB	2 x USB 2.0
Rear I/O	
COM	1 x RS232
DisplayPort	3 x DisplayPort (Max resolution up to 4096x2304@60Hz)
Ethernet	2 x RJ45
USB	4 x USB 3.0
Audio	Mic-in, Line-out
AC-in	1 x IEC C14 Inlet
Mechanical & Environment	
Power Requirements	90V to 264V AC-in (Max Power Consumption: 200W) ROC285B: AC-In ROC285BB: AC-in w/Redundant
Dimension (W x H x D)	430 x 44.4 x 450mm (16.9" x 1.75" x 17.71")
Operating Temp. (ambient with air flow)	-20 to 60°C Note: w/o any PCIe add-on card
Storage Temp.	-20 to 70°C
Relative Humidity	5% to 95%, non-condensing
Compliance	CE, FCC

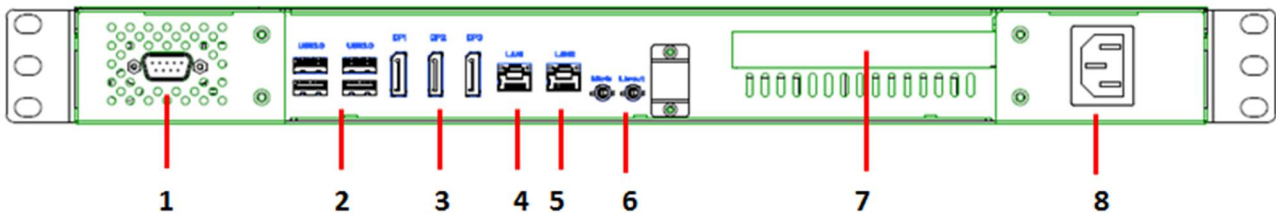
Specifications are subject to change without notice

1.2 Front Panel Components



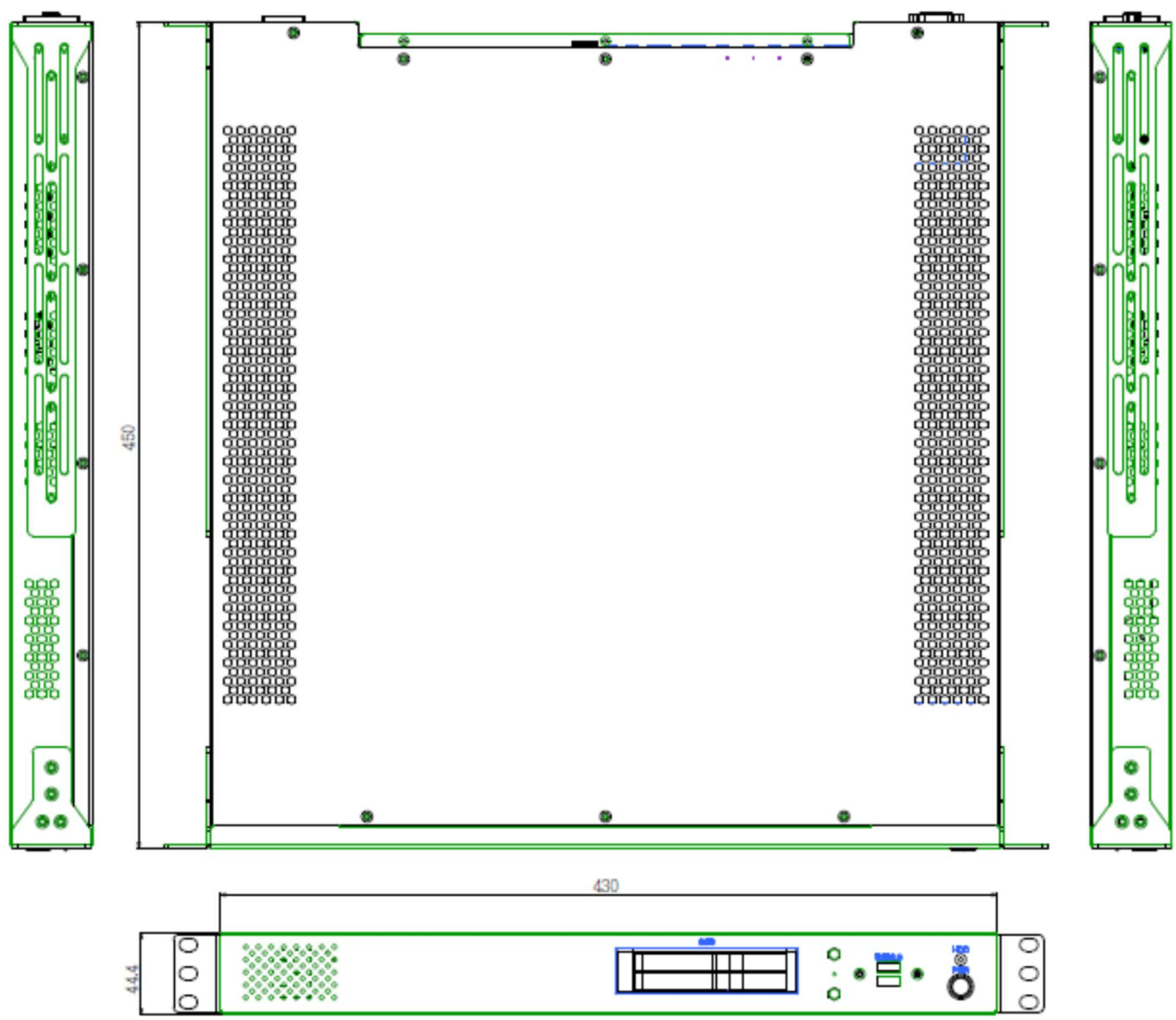
1	Power Button w/LED
2	USB 2.0 x 2
3	2.5" HDD tray x 2
4	HDD LED

1.3 Rear Panel Components



1	COM1: RS232
2	USB 3.1 x 4
3	DisplayPort x 3
4	LAN1 (Intel® I210)
5	LAN2 (Intel® I219LM)
6	Audio jack (Mic-in, Line-out)
7	PCIe16 Expansion Slot
8	IEC C14 Inlet, 90V to 264V AC-in

1.4 Mechanical Dimensions



Chapter 2: Jumpers and Connectors

2.1 Connector & LED Pin Definitions

LAN1 and LAN2 LED

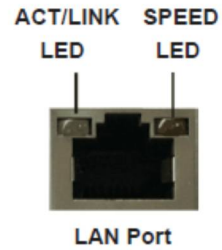
LAN Port LED Indications

Activity/Link LED

Status	Description
Off	No Link
Blinking	Data Activity
On	Link

SPEED LED

Status	Description
Off	10Mbps connection
Yellow	100Mbps connection
Green	1Gbps connection



AUDIO: LINE-OUT/MIC-IN

Pin	Definition
1	Line-out
2	Mic-in

The diagram shows two audio jacks. The top one is green and labeled 'Line-out'. The bottom one is pink and labeled 'Mic-in'.

COM1: RS232

Pin	RS-232
1	DCD-
2	RXD
3	TXD
4	DTR-
5	GND
6	DSR-
7	RTS-
8	CTS-
9	PWR (5V)

The diagram shows a 9-pin D-sub connector. The pins are arranged in a 3x3 grid. The top-left pin is labeled '1', the top-right pin is labeled '5', the bottom-left pin is labeled '6', and the bottom-right pin is labeled '9'.

Chapter 3: Getting Started

This chapter provides more detailed information and let you know how to install components into the ROC285B series embedded System.



Prior to removing the chassis cover, make sure the unit's power is off and disconnected from the power sources to prevent electric shock or system damage.

3.1 2.5" Easy Swap SSD installation

ROC285B series supports two 2.5" Easy Swap SSD

- Use Tri-angle security key to open keylock and pull out the 2.5" HDD tray.
- Put 2.5" SSD/HDD on the tray and make sure SSD/HDD is fixed and push the tray back.
- Use Tri-angle security key to lock the tray door.



Chapter 4: AMI BIOS UTILITY

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

4.1 Starting

To enter the setup screens, perform the following steps:

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

4.2 Navigation Keys

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

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

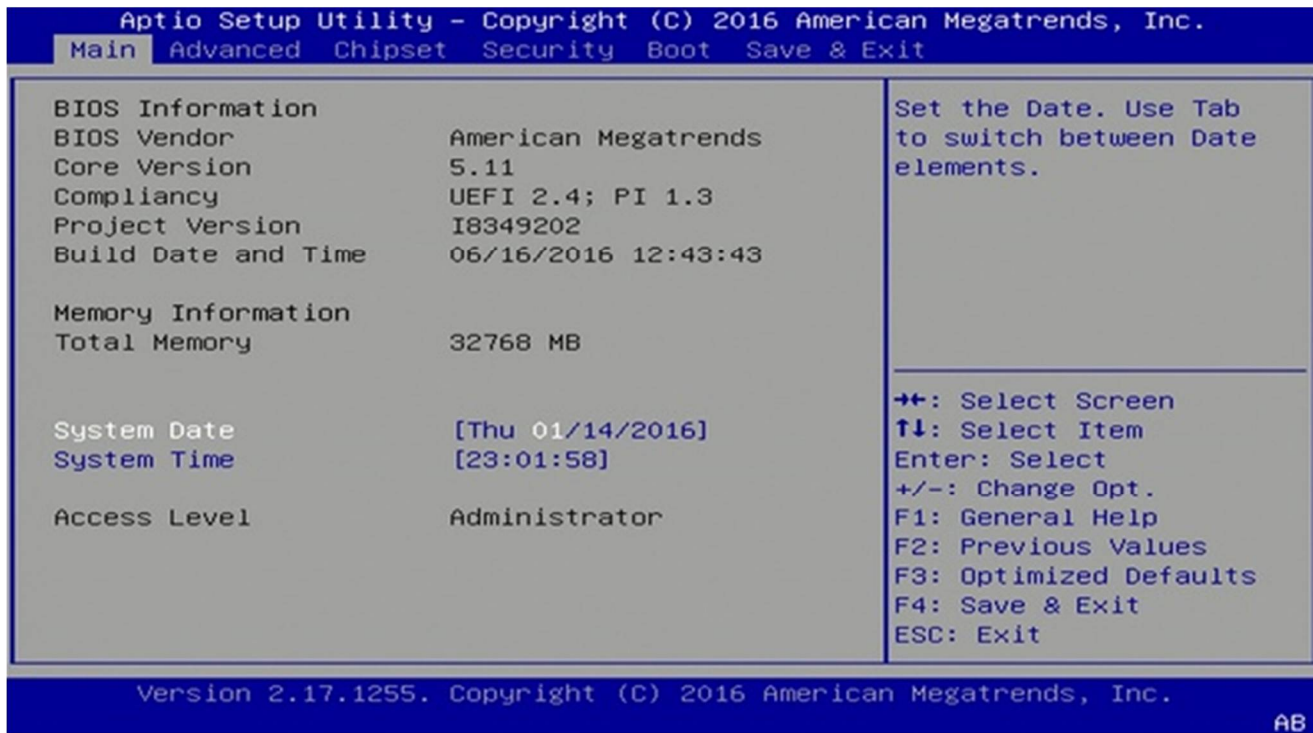


Some of the navigation keys may differ from one screen to another.

Left/Right	The Left and Right <Arrow> keys moves the cursor to select a menu.
Up/Down	The Up and Down <Arrow> keys moves the cursor to select a setup screen or sub-screen.
+– Plus/Minus	The Plus and Minus <Arrow> keys changes the field value of a particular setup setting.
Tab	The <Tab> key selects the setup fields.
F1	The <F1> key displays the General Help screen.
F10	The <F10> key saves any changes made and exits the BIOS setup utility.
Esc	The <Esc> key discards any changes made and exits the BIOS setup utility.
Enter	The <Enter> key displays a sub-screen or changes a selected or highlighted option in each menu.

4.3 Main

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



System Date

Use this function to change the system date.

Select System Date using the Up and Down <Arrow> keys. Enter the new values through the keyboard. Press the Left and Right <Arrow> keys to move between fields.

The date setting must be entered in MM/DD/YY format.

System Time

Use this function to change the system time.

Select System Time using the Up and Down <Arrow> keys. Enter the new values through the keyboard. Press the Left and Right <Arrow> keys to move between fields.

The time setting is entered in HH:MM:SS format.

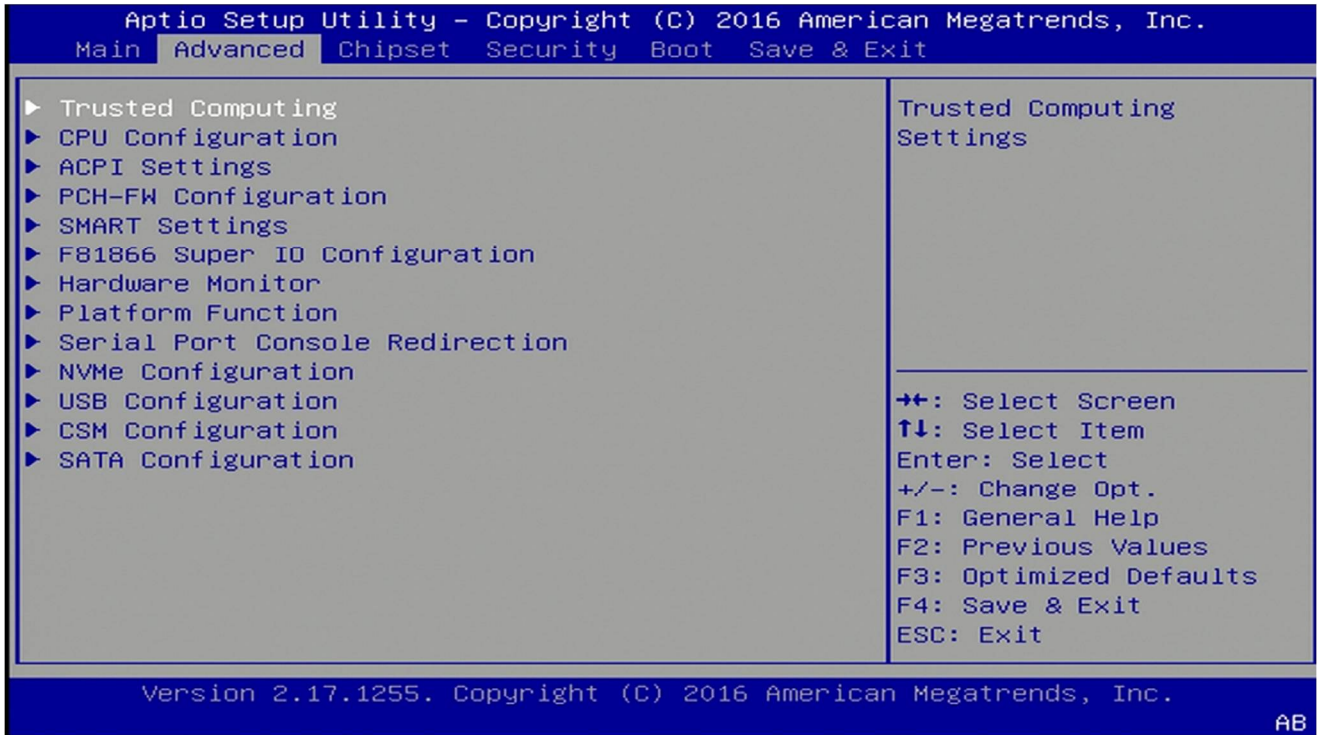
Note: The time is in 24-hour format. For example, 5:30 A.M. appears as 05:30:00, and 5:30 P.M. as 17:30:00.

Access Level

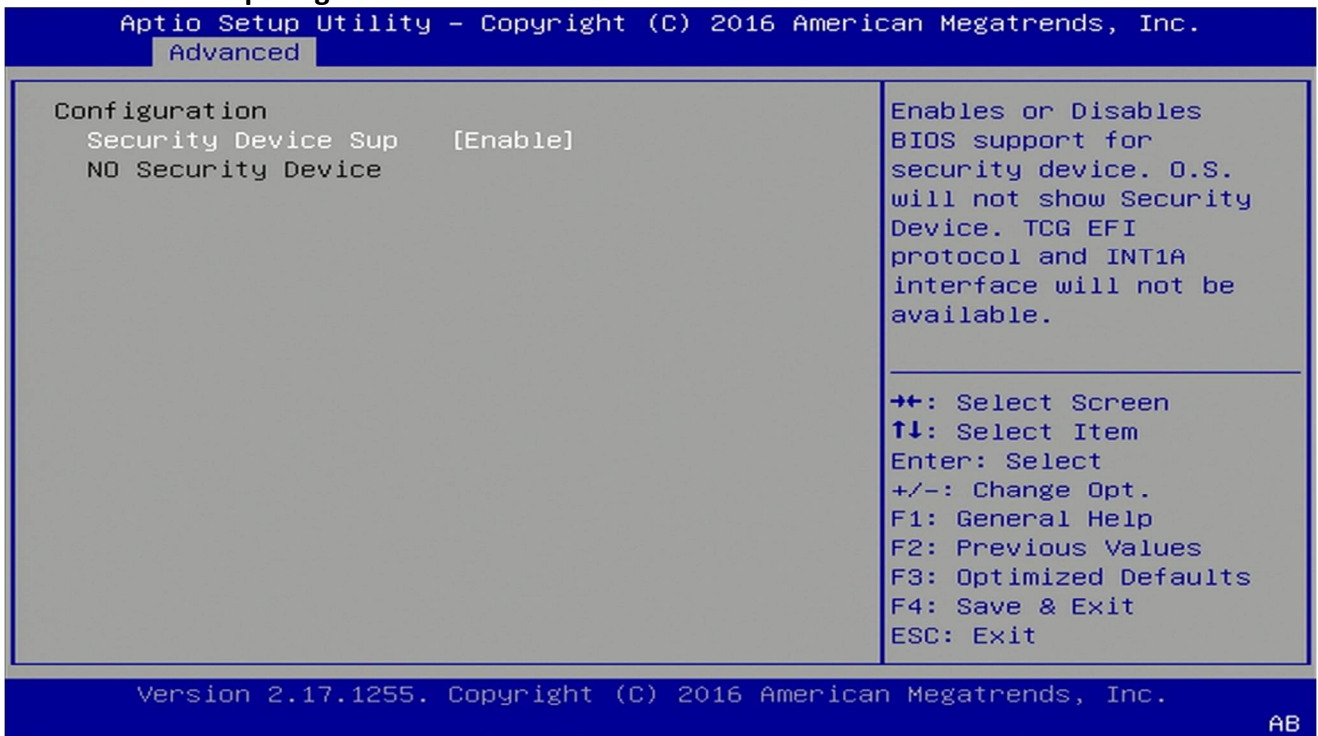
Display the access level of the current user in the BIOS.

4.4 Advanced

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



4.4.1 Trusted Computing



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4.4.2 CPU Configuration

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Advanced

CPU Configuration		
Intel(R) Core(TM) i3-6100TE CPU @ 2.70GHz		▲ Enabled for Windows XP and Linux (OS optimized for Hyper-Threading Technology) and Disabled for other OS (OS not optimized for Hyper-Threading Technology). When Disabled only one ⇐: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ▼ ESC: Exit
CPU Signature	506E3	
Microcode Patch	7C	
Max CPU Speed	2700 MHz	
Min CPU Speed	800 MHz	
CPU Speed	2700 MHz	
Processor Cores	2	
Hyper Threading Tech	Supported	
Intel VT-x Technology	Supported	
Intel SMX Technology	Not Supported	
64-bit	Supported	
EIST Technology	Supported	
CPU C3 state	Supported	
CPU C6 state	Supported	
CPU C7 state	Supported	
CPU C8 state	Supported	
CPU C9 state	Not Supported	

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CPU C10 state	Not Supported	▲ Enabled for Windows XP and Linux (OS optimized for Hyper-Threading Technology) and Disabled for other OS (OS not optimized for Hyper-Threading Technology). When Disabled only one ⇐: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ▼ ESC: Exit
L1 Data Cache	32 KB x 2	
L1 Code Cache	32 KB x 2	
L2 Cache	256 KB x 2	
L3 Cache	4 MB	
L4 Cache	Not Present	
Hyper-threading	[Enabled]	
Active Processor Core	[All]	
Intel Virtualization	[Enabled]	
Hardware Prefetcher	[Enabled]	
Adjacent Cache Line P	[Enabled]	
CPU AES	[Enabled]	
Boot performance mode	[Max Non-Turbo Perfo...]	
Intel(R) Speed Shift	[Enabled]	
Intel(R) SpeedStep(tm)	[Enabled]	
CPU C states	[Enabled]	
Enhanced C-states	[Enabled]	

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4.4.3 ACPI Setting

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ACPI Settings		Enables or Disables System ability to Hibernate (OS/S4 Sleep State). This option may be not effective with some OS.
Enable Hibernation	[Enabled]	
ACPI Sleep State	[S3 (Suspend to RAM)]	

→+: 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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4.4.4 Smart Setting

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SMART Settings		Run SMART Self Test on all HDDs during POST.
SMART Self Test	[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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4.4.5 F81866 Super IO Configuration

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Advanced

<p>F81866 Super IO Configuration</p> <p>Super IO Chip F81866</p> <ul style="list-style-type: none">▶ Serial Port 1 Configuration▶ Serial Port 2 Configuration▶ Serial Port 3 Configuration▶ Serial Port 4 Configuration▶ Serial Port 5 Configuration▶ Serial Port 6 Configuration	<p>Set Parameters of Serial Port 1 (COMA)</p> <hr/> <p>←←: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</p>
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Advanced

<p>Serial Port 1 Configuration</p> <p>Serial Port [Enabled] Device Settings IO=3F8h; IRQ=4;</p> <p>Change Settings [Auto]</p>	<p>Enable or Disable Serial Port (COM)</p> <hr/> <p>←←: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</p>
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4.4.6 Hardware Monitor

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Advanced

<p>Pc Health Status</p> <p>Smart Fan Function [Enabled]</p> <p>▶ Smart Fan Mode Configuration</p> <p>CPU temperature : +31°C</p> <p>System temperature : +35°C</p> <p>CPU Fan Speed : 1330 RPM</p> <p>System Fan Speed : N/A</p> <p>CPU VCore : +1.008 V</p> <p>+5V : +5.129 V</p> <p>+3.3V : +3.363 V</p> <p>+12V : +11.880 V</p> <p>VBAT : +3.168 V</p>	<p>Enable or Disable Smart Fan</p> <hr/> <p>↔: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</p>
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4.4.6.1 Smart Fan Mode Configuration

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<p>CPU Fan Control [Auto Duty-Cycle Mode]</p> <p>Temperature 1 70</p> <p>Temperature 2 60</p> <p>Temperature 3 50</p> <p>Temperature 4 40</p> <p>Duty Cycle 1 85</p> <p>Duty Cycle 2 70</p> <p>Duty Cycle 3 60</p> <p>Duty Cycle 4 51</p> <p>System Fan Control [Auto Duty-Cycle Mode]</p> <p>Temperature 1 70</p> <p>Temperature 2 60</p> <p>Temperature 3 50</p> <p>Temperature 4 40</p> <p>Duty Cycle 1 85</p> <p>Duty Cycle 2 70</p> <p>Duty Cycle 3 60</p> <p>Duty Cycle 4 51</p>	<p>Smart Fan Mode Select</p> <hr/> <p>↔: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</p>
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4.4.7 Platform Function

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Watch Dog Function		Watch dog Mode (Second / Minute)
Watch dog Mode	[Sec]	
Watch dog Timer	0	
Watch dog count	N/A	
COM2 Function		
COM2 port mode	[RS232]	
Slew rate control	[250Kbps]	
Mini PCIE Function		
Slot1 Wifi	[Enabled]	
LVDS Function		
LVDS Function	[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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Advanced

Watch Dog Function		COM2 port mode
Watch dog Mode	[Sec]	
Watch dog Timer	0	
Watch dog count	N/A	
COM2 Function		
COM2 port mode	COM2 port mode	
Slew rate control	RS232	
Mini PCIE Function	RS422	
Slot1 Wifi	RS485	
LVDS Function		
LVDS Function	[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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4.4.8 Serial Console Redirection

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Advanced

COM0 Console Redirection [Enabled] ▶ Console Redirection Settings	Console Redirection Enable or Disable.
---	---

++: 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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COM0 Console Redirection Settings	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
Terminal Type [VT100+] Bits per second [115200] Data Bits [8] Parity [None] Stop Bits [1] Flow Control [None] VT-UTF8 Combo Key Sup [Enabled] Recorder Mode [Disabled] Resolution 100x31 [Disabled] Legacy OS Redirection [80x24] Putty KeyPad [VT100] Redirection After BIO [Always Enable]	++: 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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4.4.9 NVMe Configuration

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Advanced

NVMe controller and Drive information

No NVME Device Found

→←: 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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4.4.10 USB Configuration

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USB Configuration

USB Module Version 14

USB Controllers:
1 XHCI

USB Devices:
1 Keyboard

Legacy USB Support

XHCI Hand-off

USB Mass Storage Drive

USB hardware delays a

USB transfer time-out [20 sec]

Device reset time-out [20 sec]

Device power-up delay [Auto]

The time-out value for Control, Bulk, and Interrupt transfers.

Select Screen
Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit

USB transfer time-out
1 sec
5 sec
10 sec
20 sec

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4.4.11 CSM Configuration

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Advanced

Compatibility Support Module Configuration		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.
CSM Support	[Enabled]	
CSM16 Module Version	07.79	⇧⇨: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
GateA20 Active	[Upon Request]	
Option ROM Messages	[Force BIOS]	
INT19 Trap Response	[Immediate]	
Boot option filter	[UEFI and Legacy]	
Option ROM execution		
Network	[Do not launch]	
Storage	[Legacy]	
Video	[Legacy]	
Other PCI devices	[UEFI]	

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4.4.12 SATA Configuration

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Advanced

SATA Controller(s)	[Enabled]	Enable or disable SATA Device.
SATA Mode Selection	[AHCI]	
▶ Software Feature Mask Configuration		⇧⇨: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Aggressive LPM Support	[Enabled]	
Serial ATA Port 0	Empty	
Software Preserve	Unknown	
Port 0	[Enabled]	
Spin Up Device	[Disabled]	
SATA Device Type	[Hard Disk Drive]	
Serial ATA Port 1	Empty	
Software Preserve	Unknown	
Port 1	[Enabled]	
Spin Up Device	[Disabled]	
SATA Device Type	[Hard Disk Drive]	
Serial ATA Port 2	Empty	
Software Preserve	Unknown	
Port 2	[Enabled]	
Spin Up Device	[Disabled]	

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4.5 Chipset Menu

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Main Advanced **Chipset** Security Boot Save & Exit

▶ System Agent (SA) Configuration ▶ PCH-I/O Configuration	System Agent (SA) Parameters
--	------------------------------

→←: 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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4.5.1 System Agent (SA) Configuration

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Chipset

System Agent Bridge N Skylake SA PCIe Code Version 1.9.0.0 VT-d Supported	VT-d capability
VT-d [Enabled] ▶ Graphics Configuration ▶ PEG Port Configuration ▶ GT - Power Management Control	

→←: 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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4.5.1.1 Graphics Configuration

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Chipset

Graphics Configuration		If Enable, it will not scan for External Gfx Card on PEG and PCH PCIE Ports
IGFX VBIOS Version	1036	
Skip Scanning of Exter	[Disabled]	↔: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Primary Display	[Auto]	
Internal Graphics	[Enabled]	
GTT Size	[8MB]	
Aperture Size	[256MB]	
DVMT Pre-Allocated	[32M]	
DVMT Total Gfx Mem	[256M]	
PAVP Enable	[Enabled]	

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4.5.1.2 PEG Port Configuration

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Chipset

PEG Port Configuration		Enable or Disable the Root Port
PEG 0:1:0	Not Present	↔: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Enable Root Port	[Auto]	
Max Link Speed	[Auto]	
Detect Non-Compliance	[Disabled]	
Program PCIe ASPM aft	Enable Root Port	
	Disabled	
	Enabled	
	Auto	

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4.5.1.3 GT-Power Management Control

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Chipset

GT - Power Management Control		Check to enable render standby support.
GT Info	GT2	
RC6(Render Standby)	[Enabled]	

RC6(Render Standby)

Disabled

Enabled

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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4.5.2 PCH-IO Configuration

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Chipset

Intel PCH RC Version	1.9.0.0	PCI Express Configuration settings
Intel PCH SKU Name	PCH-H Desktop Q170 SKU	
Intel PCH Rev ID	31/D1	
▶ PCI Express Configuration		
▶ USB Configuration		
▶ HD Audio Configuration		
PCH LAN Controller	[Enabled]	
Wake on LAN	[Enabled]	
Restore AC Power Loss	[Last State]	

++: 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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Chipset

Intel PCH RC Version	1.9.0.0	Select AC power state when power is re-applied after a power failure.
Intel PCH SKU Name	PCH-H Desktop Q170 SKU	
Intel PCH Rev ID	31/D1	
▶ PCI Express Configuration		
▶ USB Configuration		
▶ HD Audio Configuration		
PCH LAN Controller		
Wake on LAN		
Restore AC Power Loss	Restore AC Power Loss	

Power Off
Power On
Last State

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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4.5.2.1 PCI Express Configuration

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Chipset

<p>PCI Express Configuration</p> <p>PCI Express Clock Gat [Enabled] DMI Link ASPM Control [Enabled]</p> <ul style="list-style-type: none">▶ PCI Express Root Port 5▶ PCI Express Root Port 6▶ PCI Express Root Port 7▶ PCI Express Root Port 17	<p>Enable or disable PCI Express Clock Gating for each root port.</p> <hr/> <p>→+: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</p>
--	---

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4.5.2.2 USB configuration

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Chipset

USB Configuration		Options to disable Compliance Mode.
USB Precondition	[Disabled]	Default is FALSE to not
XHCI Disable Complian	[FALSE]	disable Compliance
USB Port Disable Over	[Disabled]	Mode. Set TRUE to
	XHCI Disable Compliance Mode	disable Compliance Mode.
	FALSE	
	TRUE	

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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Chipset

USB Configuration		Selectively
USB Precondition	[Disabled]	Enable/Disable the
XHCI Disable Complian	[FALSE]	corresponding USB port
USB Port Disable Over	[Disabled]	from reporting a Device
	USB Port Disable Override	Connection to the
	Disabled	controller.
	Select Per-Pin	

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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4.5.2.3 HD Audio Configuration

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Chipset

HD Audio Configuration

HD Audio [Auto]

HD Audio
Disabled
Enabled
Auto

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

←→: 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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4.6 Security Menu

Use the Security Menu to establish system passwords

```
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Main  Advanced  Chipset  Security  Boot  Save & Exit

Password Description

If ONLY the Administrator's password is set,
then this only limits access to Setup and is
only asked for when entering Setup.
If ONLY the User's password is set, then this
is a power on password and must be entered to
boot or enter Setup. In Setup the User will
have Administrator rights.
The password length must be
in the following range:
Minimum length          3
Maximum length         20

Administrator Password
User Password

Set Administrator
Password

-----
++: 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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```

Administrator Password

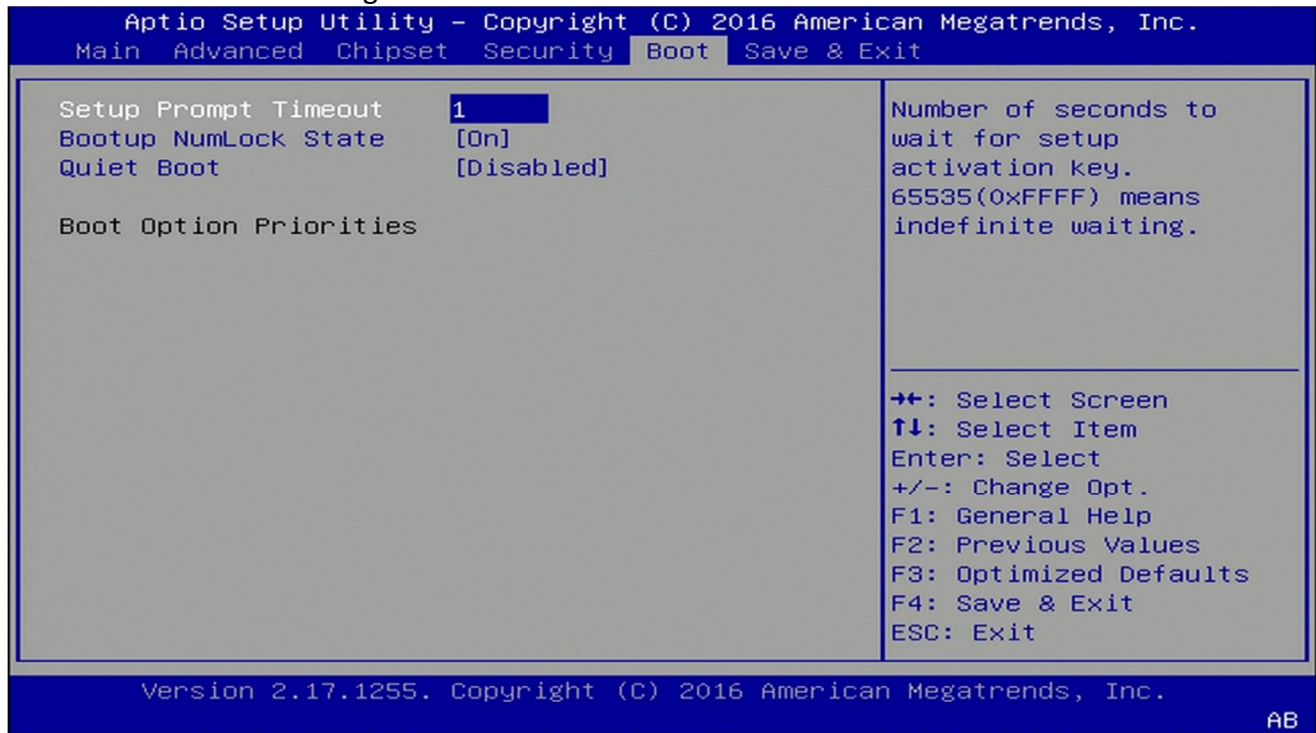
Set administrator password.

User Password

Set user Password.

4.7 Boot Menu

This section is used to configure the boot features.



Setup Prompt Timeout

Number of seconds to wait for setup activation key. 65535 (0xFFFF) means indefinite waiting.

Bootup NumLock State

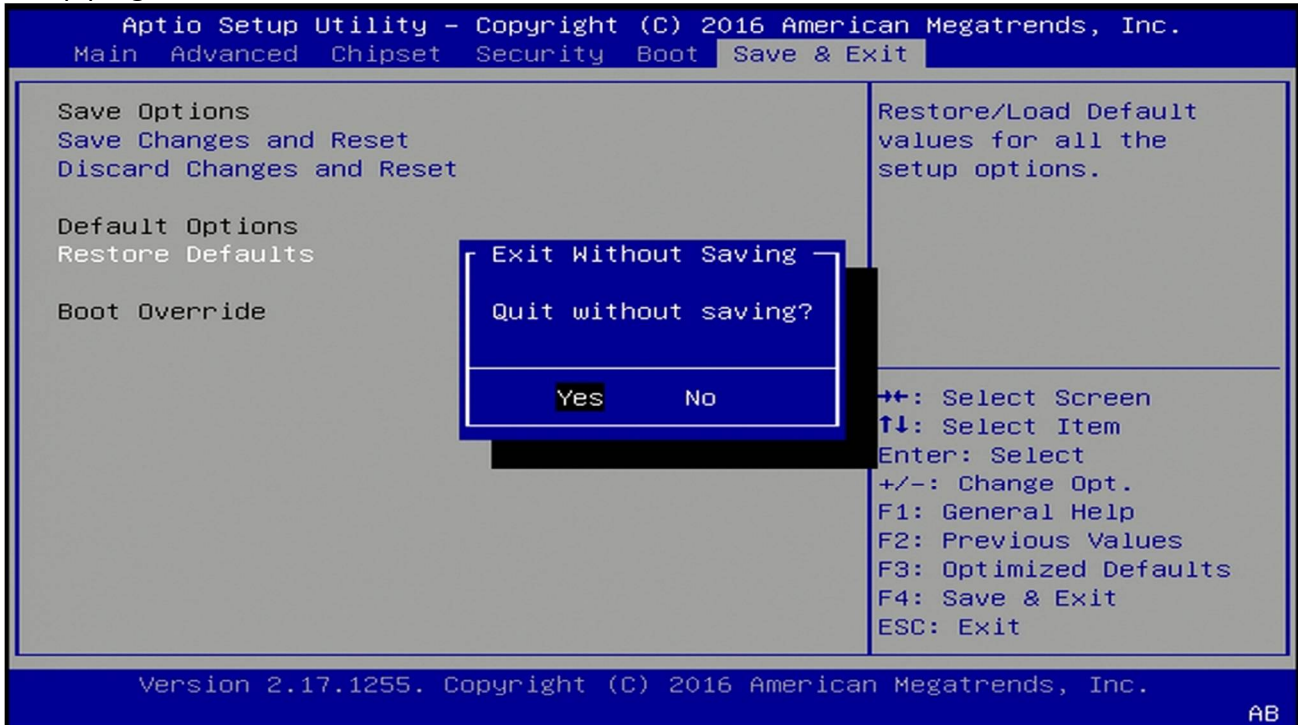
Select the keyboard NumLock state

Quiet Boot

Enables or disables quiet boot option

4.8 Save & Exit

This screen provides functions for handling changes made to the BIOS settings and the exiting of the Setup program.



Save Changes and Exit

Exit system setup after saving the changes

Discard Changes and Exit

Exit system setup without saving changes

Restore Defaults

Restore/Load default values for all the setup options