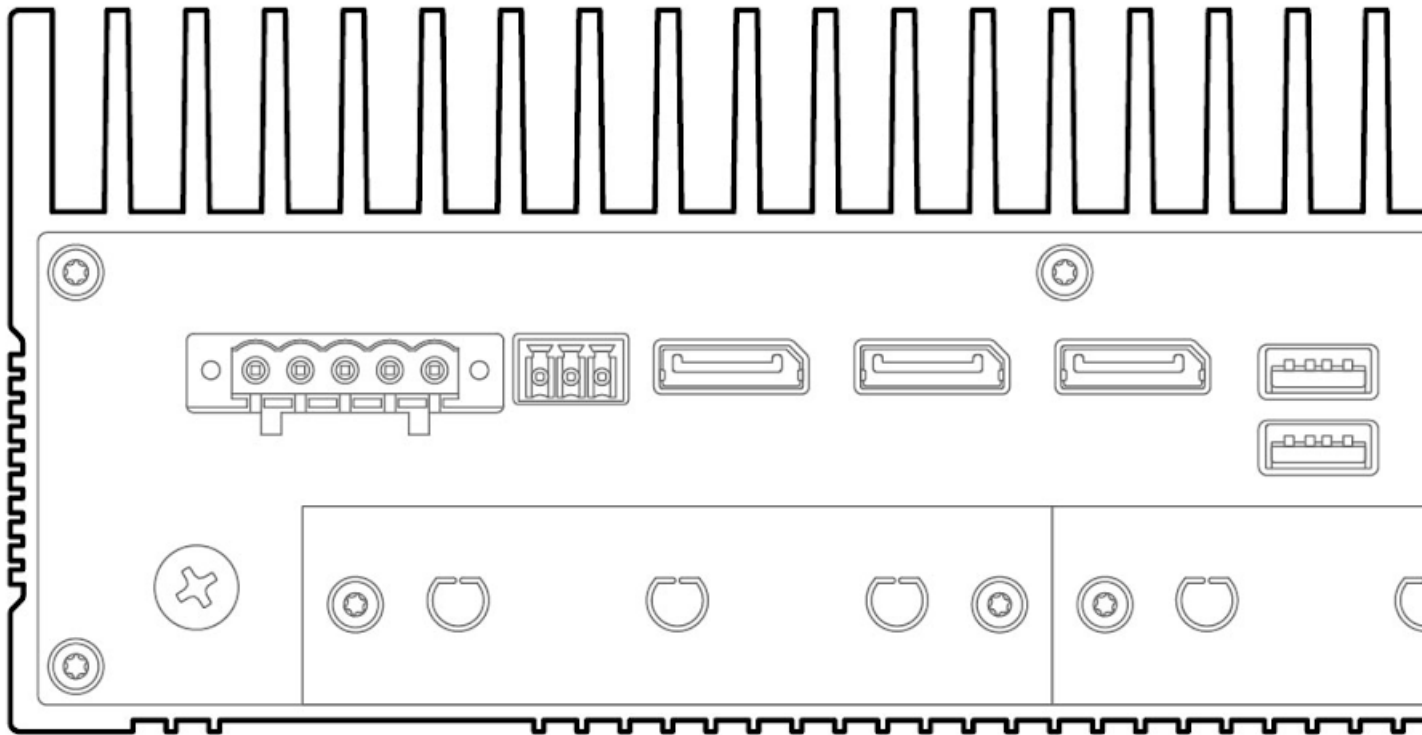


Karbon 700 BIOS Manual



Main Page

InsydeH2O Version

Type	Information
Found on BIOS Page	Main Page
Description	Displays current InsydeH2O version

BIOS Version

Type	Information
Found on BIOS Page	Main Page
Description	Displays current BIOS version

Build Date

Type	Information
Found on BIOS Page	Main Page
Description	Displays the build date in MM/DD/YYYY

Processor Type

Type	Information
Found on BIOS Page	Main Page
Description	Displays current processor

CPU Speed

Type	Information
Found on BIOS Page	Main Page
Description	Displays CPU rated speed

Number of Processors

Type	Information
Found on BIOS Page	Main Page
Description	Displays number of cores and threads

PCH SKU

Type	Information
Found on BIOS Page	Main Page
Description	Displays PCH SKU

Total Memory

Type	Information
Found on BIOS Page	Main Page
Description	Displays total memory installed in system

Channel A

Type	Information
Found on BIOS Page	Main Page
Description	Displays memory installed in Channel A

Channel B

Type	Information
Found on BIOS Page	Main Page
Description	Displays memory installed in Channel B

Memory Speed

Type	Information
Found on BIOS Page	Main Page
Description	Displays clock speed of memory

Language

Type	Information
Found on BIOS Page	Main Page
Description	Select the current default language used by the InsydeH2O

System Time

Type	Information
Found on BIOS Page	Main Page
Description	Display the time in HH:MM:SS. Valid range is from 0 to 23, 0 to 59, 0 to 59. Use +/- to increase/reduce

System Date

Type	Information
Found on BIOS Page	Main Page
Description	Display the date in MM:DD:YYYY. Valid range is from 1 to 12, 1 to 31, 2000 to 2099. Use +/- to increase/reduce

Advanced Page

Boot Configuration

Type	Configurable Setting
Found on BIOS Page	Advanced Page
Description	Configures boot settings

Advanced Page > Boot Configuration

Numlock

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Boot Configuration
Description	Selects Power-on state for numlock. Possible values: Off/On, default value: Off

SATA Configuration

Type	Configurable Setting
Found on BIOS Page	Advanced Page
Description	Select the SATA controller and hard disk drive type installed in your system

Advanced Page > SATA Configuration

SATA ATA Port X

Type	Information
Found on BIOS Page	Advanced Page > SATA Configuration
Description	Displays SKU of device currently installed in SATA Port

Chipset Configuration (Intel PTT)

Type	Configurable Setting
Found on BIOS Page	Advanced Page
Description	Advanced chipset configuration options

Advanced Page > Chipset Configuration (Intel PTT)

Platform Trust Technology

Type	Information
Found on BIOS Page	Advanced Page > Chipset Configuration (Intel PTT)
Description	Enable/Disable Platform Trust Technology. Default value: Enabled

ACPI Table/Features Control

Type	Configurable Setting
Found on BIOS Page	Advanced Page
Description	Configure ACPI Table/Features settings

Advanced Page > ACPI Table/Features Control

Enable Hibernation

Type	Configurable Setting
Found on BIOS Page	Advanced Page > ACPI Table/Features Control
Description	Enables or Disables system ability to hibernate (OS/S4 sleep state). This option may not be effective with some OSs. Default value: [X]

ACPI S3 Support

Type	Configurable Setting
Found on BIOS Page	Advanced Page > ACPI Table/Features Control
Description	Enable or Disable ACPI S3 Support. Default value: Enabled

Native PCIE Enable

Type	Configurable Setting
Found on BIOS Page	Advanced Page > ACPI Table/Features Control
Description	Enable or Disable Native PCIE. Default value: Enabled

Native ASPM

Type	Configurable Setting
Found on BIOS Page	Advanced Page > ACPI Table/Features Control
Description	Enable or Disable Native ASPM. Enabled - OS controlled ASPM, Disabled - BIOS controlled ASPM. Default value: Auto

Low Power S0 Idle Capability

Type	Configurable Setting
Found on BIOS Page	Advanced Page > ACPI Table/Features Control
Description	Enable or Disable ACPI Lower Power S0 Idle Capability (mutually exclusive with Smart Connect). While this is enabled, it also disables 8254 timer for SLP_S0 support. Default value: Disabled

CPU Configuration

Type	Configurable Setting
Found on BIOS Page	Advanced Page
Description	CPU configuration

Advanced Page > CPU Configuration

Type

Type	Information
Found on BIOS Page	Advanced Page > CPU Configuration
Description	Lists CPU type

ID

Type	Information
Found on BIOS Page	Advanced Page > CPU Configuration
Description	Lists CPU ID

Speed

Type	Information
Found on BIOS Page	Advanced Page > CPU Configuration
Description	Lists CPU speed

L1 Data Cache

Type	Information
Found on BIOS Page	Advanced Page > CPU Configuration
Description	Lists amount of L1 data cache

L1 Instruction Cache

Type	Information
Found on BIOS Page	Advanced Page > CPU Configuration
Description	Lists amount of L1 instruction cache

L2 Data Cache

Type	Information
Found on BIOS Page	Advanced Page > CPU Configuration
Description	Lists amount of L2 data cache

L3 Data Cache

Type	Information
Found on BIOS Page	Advanced Page > CPU Configuration
Description	Lists amount of L3 Data Cache

L4 Data Cache

Type	Information
Found on BIOS Page	Advanced Page > CPU Configuration
Description	Lists amount of L4 Data Cache

VMX

Type	Information
Found on BIOS Page	Advanced Page > CPU Configuration
Description	Lists if VMX is supported

SMX/TXT

Type	Information
Found on BIOS Page	Advanced Page > CPU Configuration
Description	Lists if SMX/TXT is supported

Intel (VMX) Virtualization Technology

Type	Configurable Setting
Found on BIOS Page	Advanced Page > CPU Configuration
Description	Enable or Disable Intel VMX Virtualization Technology. When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology. Default value: Enabled

Active Processor Cores

Type	Configurable Setting
Found on BIOS Page	Advanced Page > CPU Configuration
Description	Set number of cores to enable in each processor package

Hyper-Threading

Type	Configurable Setting
Found on BIOS Page	Advanced Page > CPU Configuration
Description	Enable or Disable Hyper-Threading. Default value: Enabled

AES

Type	Configurable Setting
Found on BIOS Page	Advanced Page > CPU Configuration
Description	Enable or Disable AES (Advanced Encryption Standard). Default value: Enabled

Power & Performance

Type	Configurable Setting
Found on BIOS Page	Advanced Page
Description	Power and performance

Boot Performance Mode

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Power & Performance
Description	Select the performance state that the BIOS will set starting from reset vector. Possible values: Max Non-Turbo Performance / Max Battery / Turbo Performance. Default value: Max Non-Turbo Performance

Intel(R) SpeedStep(tm)

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Power & Performance
Description	Allows more than two frequency ranges to be supported. Default value: Enabled

Intel(R) Speed Shift Technology

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Power & Performance
Description	Enable or Disable Intel(R) Speed Shift Technology support. Enabling will expose the CPPC v2 interface to allow for hardware controlled P-states. Default value: Enabled

Turbo Mode

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Power & Performance
Description	Enable or Disable processor Turbo Mode (requires Intel Speed Step or Intel Speed Shift to be available and enabled). Default value: Enabled

Configurable TDP Settings

Type	Configurable Setting
Found on BIOS Page	Advanced Page
Description	Configurable TDP settings

Configurable TDP Boot Mode

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Configurable TDP Settings
Description	Configurable TDP Mode TDP selection. Deactivate option will set MSR to Nominal and MMIO to Zero. Possible values: Nominal / Down / Deactivate Default value: Nominal

Configurable TDP Lock

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Configurable TDP Settings
Description	Configurable TDP Mode Lock sets the Lock bits on TURBO_ACTIVATION_RATIO and CONFIG_TDP_CONTROL. Note: When CTD Lock is enabled Custom ConfigTDP Count will be forced to 1 and Custom ConfigTDP Boot Index will be forced to 0. Default value: Disabled

CTDP BIOS Control

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Configurable TDP Settings
Description	Enable or Disable CTD control via runtime ACPI BIOS methods. This "BIOS only" feature does not require EC or driver support. Default value: Disabled

Memory Configuration

Type	Configurable Setting
Found on BIOS Page	Advanced Page
Description	Memory Configuration Parameters

HOB Buffer Size

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Memory Configuration
Description	Set HOB buffer size. Possible values: Auto / 1B / 1KB / Max (assuming 63KB total HOB size). Default value: Auto

ECC Support

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Memory Configuration
Description	Enable or Disable ECC Support. Default value: Enabled

Max TOLUD

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Memory Configuration
Description	Maximum value of TOLUD. Dynamic assignment would adjust TOLUD automatically based on largest MMIO length of installed graphic controller. Possible value: 1, 1.25, 1.5, 1.75, 2, 2.25, 2.5, 2.75, 3, 3.25, 3.5 (GB). Default value: Dynamic

System Agent (SA) Configuration

Type	Configurable Setting
Found on BIOS Page	Advanced Page
Description	System Agent (SA) Parameters

SA PCIe Code Version

Type	Information
Found on BIOS Page	Advanced Page > System Agent (SA) Configuration
Description	Displays SA PCIe Code Version

VT-d

Type	Information
Found on BIOS Page	Advanced Page > System Agent (SA) Configuration
Description	Lists VT-d support

Graphics Configuration

Type	Configurable Setting
Found on BIOS Page	Advanced Page > System Agent (SA) Configuration
Description	Graphics configuration

Stop Grant Configuration

Type	Configurable Setting
Found on BIOS Page	Advanced Page > System Agent (SA) Configuration
Description	Automatic/Manual stop grant configuration. Default value: Auto

PCIe Spread Spectrum Clocking

Type	Configurable Setting
Found on BIOS Page	Advanced Page > System Agent (SA) Configuration
Description	Allows disabling Spread Spectrum Clocking for compliance testing. Default value: Enabled

VT-d

Type	Configurable Setting
Found on BIOS Page	Advanced Page > System Agent (SA) Configuration
Description	Enable or Disable VT-d capability. Default value: Enabled

CHAP Device (B0:D7:F0)

Type	Configurable Setting
Found on BIOS Page	Advanced Page > System Agent (SA) Configuration
Description	Enable or Disable SA CHAP Device. Default value: Disabled

Thermal Device (B0:D4:F0)

Type	Configurable Setting
Found on BIOS Page	Advanced Page > System Agent (SA) Configuration
Description	Enable or Disable SA Thermal Device. Default value: Disabled

GNA Device (B0:D8:F0)

Type	Configurable Setting
Found on BIOS Page	Advanced Page > System Agent (SA) Configuration
Description	Enable or Disable SA GNA Device. Default value: Disabled

CRID Support

Type	Configurable Setting
Found on BIOS Page	Advanced Page > System Agent (SA) Configuration
Description	Enable or Disable CRID control for Intel SIPP. Default value: Disabled

Above 4GB MMIO BIOS assignment

Type	Configurable Setting
Found on BIOS Page	Advanced Page > System Agent (SA) Configuration
Description	Enable or Disable above 4GB MemoryMappedIO BIOS assignment. This is enabled automatically when Aperture Size is set to 2048MB. Default value: Disabled

X2APIC Opt Out

Type	Configurable Setting
Found on BIOS Page	Advanced Page > System Agent (SA) Configuration
Description	Enable or Disable X2APIC_OPT_OUT bit. Default value: Disabled

IPU Device (B0:D5:F0)

Type	Configurable Setting
Found on BIOS Page	Advanced Page > System Agent (SA) Configuration
Description	Enable or Disable SA IPU Device. Default value: Disabled

Advanced Page > System Agent (SA) Configuration > Graphics Configuration

Skip Scanning of External Gfx Card

Type	Configurable Setting
Found on BIOS Page	Advanced Page > System Agent (SA) Configuration > Graphics Configuration
Description	If Enabled, it will not scan for External Gfx Card on PEG and PCH PCIE Ports. Default value: Disabled

Primary Display

Type	Configurable Setting
Found on BIOS Page	Advanced Page > System Agent (SA) Configuration > Graphics Configuration
Description	Select which of IGFX/PEG/PCI Graphics device should be Primary Display or select SG for Switchable Gfx. Possible values: Auto / IGFX / PEG / PCI / SG. Default value: Auto

Internal Graphics

Type	Configurable Setting
Found on BIOS Page	Advanced Page > System Agent (SA) Configuration > Graphics Configuration
Description	Keep IGFX enabled based on the setup options. Possible values: Auto / Enabled / Disabled. Default value: Auto

GTT Size

Type	Configurable Setting
Found on BIOS Page	Advanced Page > System Agent (SA) Configuration > Graphics Configuration
Description	Select the GTT Size. Possible values: 8MB / 2MB / 4MB. Default value: 8MB

Aperture Size

Type	Configurable Setting
Found on BIOS Page	Advanced Page > System Agent (SA) Configuration > Graphics Configuration
Description	Select the Aperture Size. Note: Above 4GB MMIO BIOS assignment is automatically enabled when selecting 2048MB aperture. To use this feature, please disable CSM support. Possible values: 256MB / 128MB / 512MB / 1024MB / 2048MB. Default value: 256MB

DVMT Pre-Allocated

Type	Configurable Setting
Found on BIOS Page	Advanced Page > System Agent (SA) Configuration > Graphics Configuration
Description	Select DVMT 5.0 Pre-Allocated (Fixed) graphics memory size used by the Internal Graphics Device. Possible values: 0, 64, 4, 8, 12, 16, 20, 24, 28, 32/F7, 36, 40, 44, 48, 52, 56, 60 (M) Default value: 32M

DVMT Total Gfx Mem

Type	Configurable Setting
Found on BIOS Page	Advanced Page > System Agent (SA) Configuration > Graphics Configuration
Description	Select DVMT 5.0 Total Graphic Memory size used by the Internal Graphics Device. Possible values: 256M / 128M. Default value: 256M

PCH-IO Configuration

Type	Configurable Setting
Found on BIOS Page	Advanced Page
Description	PCH Parameters

PCI Express Configuration

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration
Description	PCI Express Configuration settings

SATA and RST Configuration

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration
Description	SATA Device Options Settings

HD Audio

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration
Description	HD Audio Subsystem Configuration Settings

PCH LAN Controller

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration
Description	Enable or Disable the onboard NIC. Default value: Enabled

Wake on LAN Enable

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration
Description	Enable or Disable integrated LAN to wake the system. Default value: Enabled

SLP_LAN# Low on DC Power

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration
Description	Enable or Disable SLP_LAN# Low on DC Power. Default value: Enabled

EFI Network

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration
Description	Enable or Disable EFI Network support for onboard LAN or WiFi module. Possible values: Disabled / Onboard NIC / WiFi / Onboard NIC & WiFi. Default value: Disabled

Wake on WLAN and BT Enable

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration
Description	Enable or Disable PCI Express Wireless LAN and Bluetooth to wake the system. Default value: Disabled

PXE ROM

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration
Description	Enable or Disable PXE Option ROM execution. Default value: Disabled

Auto Power-On

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration
Description	Specify what state to go to when power is reapplied after a power failure (G3 state). Enable: System will boot directly as soon as power is applied. Disable: System will remain in power-off state until the power button is pressed. Default value: Disabled

Advanced Page > PCH-IO Configuration > PCI Express Configuration

PCI Express Clock Gating

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration
Description	Enable or Disable PCI Express Clock Gating. Default value: Enabled

PCI Express Root Port

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration > PCI Express Configuration
Description	PCIE Root Port Settings

PCI Express Root Port

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration > PCI Express Configuration
Description	PCIE Root Port Settings

Advanced Page > PCH-IO Configuration > PCI Express Configuration > PCI Express Root Port Settings

PCI Express Root Port

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration > PCI Express Configuration > PCI Express Root Port Settings
Description	Enable or disable the PCI Express Root Port. Default value: Enabled

ASPM

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration > PCI Express Configuration > PCI Express Root Port Settings
Description	PCI Express Active State Power Management setting. Possible values: Auto, Disabled, L0s, L1, L0sL1. Default value: Auto

PCIe Speed

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration > PCI Express Configuration > PCI Express Root Port Settings
Description	Configure PCIe Speed. Possible values: Auto, Gen1, Gen2, Gen3. Default value: Auto

Detect Timeout

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration > PCI Express Configuration > PCI Express Root Port Settings
Description	The number of milliseconds reference code will wait for link to exit detect state for enabled ports before assuming there is no device and potentially disabling the port.

Advanced Page > PCH-IO Configuration > SATA and RST Configuration

SATA Controllers

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration > SATA and RST Configuration
Description	Enable or Disable SATA Device. Default value: Enabled

SATA Mode Selection

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration > SATA and RST Configuration
Description	Determines how SATA controller(s) operate. Possible values: AHCI / RAID / Intel RST Premium With Intel Optane System Acceleration. Default value: AHCI

Serial ATA Port X

Type	Information
Found on BIOS Page	Advanced Page > PCH-IO Configuration > SATA and RST Configuration
Description	Displays current population state of SATA port

Software Preserve

Type	Information
Found on BIOS Page	Advanced Page > PCH-IO Configuration > SATA and RST Configuration
Description	Displays if Software Preserve is supported

Port X

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration > SATA and RST Configuration
Description	Enable or Disable SATA Port. Default value: Enabled

Hot Plug

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration > SATA and RST Configuration
Description	Designates this port as Hot Pluggable. Default value: Disabled

Configured as eSATA

Type	Information
Found on BIOS Page	Advanced Page > PCH-IO Configuration > SATA and RST Configuration
Description	Displays configured as eSATA

External

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration > SATA and RST Configuration
Description	Marks this port as external. Default value: Disabled

Spin Up Device

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration > SATA and RST Configuration
Description	If enabled for any port, Staggered Spin Up will be performed and only the drives which have this option enabled will spin up at boot. Default value: Disabled

SATA Device Type

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration > SATA and RST Configuration
Description	Identify if SATA port is connected to Solid State Drive or Hard Disk Drive. Possible values: Hard Disk Drive / Solid State Drive. Default value: Hard Disk Drive

Topology

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration > SATA and RST Configuration
Description	Identify the SATA Topology if it is Default or ISATA or Flex or DirectConnect or M2.

Advanced Page > PCH-IO Configuration > HD Audio

HD Audio

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-IO Configuration > HD Audio
Description	Control Detection of the HD-Audio Device. Disabled = HDA will be unconditionally disabled. Enabled = HDA will be unconditionally enabled. Default value: Enabled

Advanced Page > PCH-FW Configuration

ME Firmware Version

Type	Information
Found on BIOS Page	Advanced Page > PCH-FW Configuration
Description	Displays ME firmware version

ME Firmware Mode

Type	Information
Found on BIOS Page	Advanced Page > PCH-FW Configuration
Description	Displays ME firmware mode

ME Firmware SKU

Type	Information
Found on BIOS Page	Advanced Page > PCH-FW Configuration
Description	Displays ME firmware SKU

ME Firmware Status 1

Type	Information
Found on BIOS Page	Advanced Page > PCH-FW Configuration
Description	Displays ME firmware status 1

ME Firmware Status 2

Type	Information
Found on BIOS Page	Advanced Page > PCH-FW Configuration
Description	Displays ME firmware status 2

ME State

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration
Description	When Disabled ME will be put into ME Temporarily Disabled Mode. Default value: Enabled

Manageability Features State

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration
Description	Enable or Disable Intel(R) Manageability features. Note: This option disables/enables Manageability Features support in FW. Platform must be in an unprovisioned state before disabling ME support. Default value: Enabled

AMT BIOS Features

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration
Description	When disabled AMT BIOS Features are no longer supported and user is no longer able to access MEBx Setup. Note: This option does not disable Manageability Features in FW. Default value: Enabled

AMT Configuration

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration
Description	Configure Intel(R) Active Management Technology Parameters

ME Unconfig on RTC Clear

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration
Description	When Disabled ME will not be unconfigured on RTC Clear. Default value: Enabled

Comms Hub Support

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration
Description	Enable or Disable support for Comms Hub. Default value: Disabled

JHI Support

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration
Description	Enable or Disable Intel(R) DAL Host Interface Service (JHI). Default value: Disabled

Core BIOS Done Message

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration
Description	Enable or Disable sending Core BIOS Done Message to ME. Default value: Enabled

Firmware Update Configuration

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration
Description	Configure Management Engine Technology Parameters

PTT Configuration

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration
Description	Configure PTT

Advanced Page > PCH-FW Configuration > AMT Configuration

ASF Support

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration > ASF Support
Description	Enable or Disable Alert Standard Format support. Default value: Enabled

USB Provisioning of AMT

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration > ASF Support
Description	Enable or Disable AMT USB Provisioning. Default value: Disabled

CIRA Configuration

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration > ASF Support
Description	Configure Remote Assistance Process parameters

ASF Configuration

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration > ASF Support
Description	Configure Alert Standard Format parameters

Secure Erase Configuration

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration > ASF Support
Description	Secure Erase Configuration menu

MEBx Resolution Settings

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration > ASF Support
Description	Resolution settings for MEBx display modes

Advanced Page > PCH-FW Configuration > ASF Support > CIRA Configuration

Activate Remote Assistance Process

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration > ASF Support > CIRA Configuration
Description	Trigger CIRA boot Note: Network Access must first be activated from MEBx Setup. Possible values :[] / [X]. Default value: []

CIRA Timeout

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration > ASF Support > CIRA Configuration
Description	OEM defined timeout for MPS connection to be established. 0 - use the default timeout value of 60 seconds 255 - MEBx waits until the connection succeeds Default value: 0 (Grayed out unless Activate Remote Assistance Process enabled)

Advanced Page > PCH-FW Configuration > ASF Support > ASF Configuration

PET Progress

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration > ASF Support > ASF Configuration
Description	Enable or Disable PET Events Progress to receive PET Events. Default value: Enabled

WatchDog

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration > ASF Support > ASF Configuration
Description	Enable or Disable the WatchDog Timer. Default value: Disabled

OS Timer

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration > ASF Support > ASF Configuration
Description	Set OS watchdog timer. Default value: 0 (Grayed out unless watchdog enabled)

BIOS Timer

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration > ASF Support > ASF Configuration
Description	Set BIOS watchdog timer. Default value: 0 (Grayed out unless watchdog enabled)

ASF Sensors Table

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration > ASF Support > ASF Configuration
Description	Adds ASF Sensor Table into ASF ACPI Table. Default value: Disabled

Advanced Page > PCH-FW Configuration > ASF Support > Secure Erase Configuration

Secure Erase Mode

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration > ASF Support > Secure Erase Configuration
Description	Change Secure Erase module behavior: Simulated: Performs SE flow without erasing SSD Real: Erase SSD Default value: Simulated

Force Secure Erase

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration > ASF Support > Secure Erase Configuration
Description	Force Secure Erase on next boot. Default value: Disabled

Advanced Page > PCH-FW Configuration > ASF Support > MEBx Resolution Settings

Non-UI Mode Resolution

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration > ASF Support > MEBx Resolution Settings
Description	Resolution for non-UI text mode. Possible values: Auto / 80x25 / 100x31. Default value: Auto

UI Mode Resolution

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration > ASF Support > MEBx Resolution Settings
Description	Resolution for UI text mode. Possible values: Auto / 80x25 / 100x31. Default value: Auto

Graphics Mode Resolution

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration > ASF Support > MEBx Resolution Settings
Description	Resolution for graphics mode. Possible values: Auto / 640x480 / 800x600 / 1024x768. Default value: Auto

Advanced Page > PCH-FW Configuration > Firmware Update Configuration

ME Firmware Re-Flash

Type	Configurable Setting
Found on BIOS Page	Advanced Page > PCH-FW Configuration > Firmware Update Configuration
Description	Enable or Disable ME FW Image Re-Flash function. Default value: Disabled

Advanced Page > Thermal Configuration

Automatic Thermal Reporting

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Thermal Configuration
Description	Configure _CRT, _PSV and _AC0 automatically based on values recommended in BWG's Thermal Reporting for Thermal Management settings. Set to Disabled for manual configuration. Default value: Disabled

Critical Trip Point

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Thermal Configuration
Description	This value controls the temperature of the ACPI Critical Trip Point - the point at which the OS will shut the system off. Note: 119C is the Plan Of Record (POR) for all Intel mobile processors. Possible values: 15, 23, 31, 39, 47, 55, 63, 71, 79, 87, 95, 100, 103, 111, 127 C Default value: 119 C (POR)

Active Trip Point 0

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Thermal Configuration
Description	This value controls the temperature of the ACPI Active Trip Point 0 - the point at which the OS will set the processor fan to Active Trip Point 0 Fan Speed. Possible values: 15, 23, 31, 39, 47, 55, 63, 71, 79, 87, 95, 100, 111, 127 C Default value: 71 C

Active Trip Point 0 Fan Speed

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Thermal Configuration
Description	Active Trip Point 0 Fan Speed in percentage. Value must be between 0 (Fan off) - 100 (Max fan speed). This is the speed at which the fan will run when Active Trip Point 0 is crossed. Possible values: 0 - 100 Default value: 100

Active Trip Point 1

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Thermal Configuration
Description	This controls the temperature of the ACPI Active Trip Point 1 - the point at which the OS will set the processor fan to Active Trip Point 1 Fan Speed. Possible values: 15, 23, 31, 39, 47, 63, 71, 79, 87, 95, 100, 103, 111, 119 (POR), 127 C Default value: 55 C

Active Trip Point 1 Fan Speed

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Thermal Configuration
Description	Active Trip Point 1 Fan Speed in percentage. Value must be between 0 (Fan off) - 100 (Max fan speed). This value must be less than Active Trip Point 0 Fan Speed. This is the speed at which the fan will run when Active Trip 1 is crossed. Possible values: 0 - 100 Default value: 75

Passive Trip Point

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Thermal Configuration
Description	This value controls the temperature of the ACPI Passive Trip Point - the point in which the OS will begin throttling the processor. Possible values: 15, 23, 31, 39, 47, 55, 63, 71, 79, 87, 100, 103, 111, 119 (POR), 127 C Default value: 95 C

Passive TC1 Value

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Thermal Configuration
Description	This value sets the TC1 value for the ACPI Passive Cooling Formula. Range 1-16. Default value: 1

Passive TC2 Value

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Thermal Configuration
Description	This value sets the TC2 value for the ACPI Passive Cooling Formula. Range 1-16. Default value: 5

Passive TSP Value

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Thermal Configuration
Description	This item sets the TSP value for the ACPI Passive Cooling Formula. It represents in tenths of a second how often the OS will read the temperature when passive cooling is enabled. Range 2-32. Default value: 10

Active Trip Points

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Thermal Configuration
Description	Enable or Disable Active Trip Points. Default value: Enabled

Passive Trip Points

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Thermal Configuration
Description	Enable or Disable Passive Trip Points. Default value: Disabled

Critical Trip Points

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Thermal Configuration
Description	Enable or Disable Critical Trip Points. Default value: Enabled

Active Trip Points

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Thermal Configuration
Description	Enable or Disable Active Trip Points. Default value: Enabled

PCH Temp Read

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Thermal Configuration
Description	PCH Temperature Read Enable

CPU Energy Read

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Thermal Configuration
Description	CPU Energy Read Enable

CPU Temp Read

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Thermal Configuration
Description	CPU Temperature Read Enable

Alert Enable Lock

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Thermal Configuration
Description	Lock all Alert Enable Settings. Default value: Disabled

CPU Temp

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Thermal Configuration
Description	Fail Safe temp that EC will use if OS is hung. Default value: 75

CPU Fan Speed

Type	Configurable Setting
Found on BIOS Page	Advanced Page > Thermal Configuration
Description	Fan speed that EC will use if OS is hung. Default value: 65

Advanced Page > SIO NCT5524D

UART Port 1 Configuration

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip
Description	UART configuration

UART Port 2 Configuration

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip
Description	UART configuration

Fan Control

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip
Description	Fan control configuration

Hardware Monitor

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip
Description	Monitor all hardware sensors like voltage/temperature/fan speed

Advanced Page > SIO NCT5524D CHIP > UART Port X Configuration

UART Port X

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > UART Port X Configuration
Description	Configure UART Port using options: [Disabled] Disable device [Enabled] Enable device and use below settings Default value: Enabled

Power Over Cable

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > UART Port X Configuration
Description	COM port power over cable enable. Default value: Disabled

Power Source Select

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > UART Port X Configuration
Description	COM port power source select. Possible values: 5V / 12V. Default value: 5V

Mode Select

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > UART Port X Configuration
Description	COM port mode select. Possible values: Pure RS-232, RS-422 Full Duplex, RS-485 Half Duplex (TX ENABLE Low Active), RS-485 Half Duplex (TX ENABLE High Active), RS-422 Full Duplex (with termination resistor and bias resistor), Pure RS-232 (co-exists with RS485), RS-485 Half Duplex (with termination resistor and bias resistor), Low Power Shutdown Default value: Pure RS-232

Advanced Page > SIO NCT5524D CHIP > Fan Control (Manual)

SYSFANIN

Type	Information
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Manual)
Description	Displays current Fan RPM

CPUTIN

Type	Information
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Manual)
Description	Displays current CPU temperature

Mode

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Manual)
Description	Choose Control Mode. Possible values: Manual, Thermal Cruise, Speed Cruise, Smart Fan IV. Default value: Manual

PWM/DC Output

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Manual)
Description	Select fan output signal. Possible values: PWM Duty Cycle (%), DC Voltage (%). Default value: PWM Duty Cycle (%)

Output Buffer Type

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Manual)
Description	Select output buffer type. Possible values: Open-Drain, Push-Pull. Default value: Open-Drain

PWM Duty Cycle (%) / DC Voltage (%) (Changes based on selected output mode)

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Manual)
Description	Manually adjust PWM duty cycle [0-100]% / Manually adjust DC Voltage [0-100]%. Default value: 100

Advanced Page > SIO NCT5524D CHIP > Fan Control (Thermal Cruise)

SYSFANIN

Type	Information
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Thermal Cruise)
Description	Displays current Fan RPM

CPUTIN

Type	Information
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Thermal Cruise)
Description	Displays current CPU temperature

Mode

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Thermal Cruise)
Description	Choose Control Mode. Possible values: Manual, Thermal Cruise, Speed Cruise, Smart Fan IV. Default value: Manual

PWM/DC Output

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Thermal Cruise)
Description	Select fan output signal. Possible values: PWM Duty Cycle (%), DC Voltage (%). Default value: PWM Duty Cycle (%)

Output Buffer Type

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Thermal Cruise)
Description	Select output buffer type. Possible values: Open-Drain, Push-Pull. Default value: Open-Drain

Target Temperature (°C)

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Thermal Cruise)
Description	The fan will try to maintain a temperature within Target Temperature $\pm$ Tolerance. Default value: 0

Tolerance (°C)

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Thermal Cruise)
Description	Temperature tolerance. Default value: 0

Advanced Page > SIO NCT5524D CHIP > Fan Control (Speed Cruise)

SYSFANIN

Type	Information
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Speed Cruise)
Description	Displays current Fan RPM

CPUTIN

Type	Information
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Speed Cruise)
Description	Displays current CPU temperature

Mode

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Speed Cruise)
Description	Choose Control Mode. Possible values: Manual, Thermal Cruise, Speed Cruise, Smart Fan IV. Default value: Manual

PWM/DC Output

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Speed Cruise)
Description	Select fan output signal. Possible values: PWM Duty Cycle (%), DC Voltage (%). Default value: PWM Duty Cycle (%)

Output Buffer Type

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Speed Cruise)
Description	Select output buffer type. Possible values: Open-Drain, Push-Pull. Default value: Open-Drain

Target Fan Speed

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Speed Cruise)
Description	The fan will try to keep the fan speed within Target Fan Speed $\pm$ Tolerance. When the fan speed is in this range, fan speed won't change. If the fan speed is outside of this range, the fan will speed up or slow down toward the range. Default value: 0

Tolerance

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Speed Cruise)
Description	Fan Speed Tolerance. Default value: 0

Advanced Page > SIO NCT5524D CHIP > Fan Control (Smart Fan IV)

SYSFANIN

Type	Information
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Smart Fan IV)
Description	Displays current Fan RPM

CPUTIN

Type	Information
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Smart Fan IV)
Description	Displays current CPU temperature

Mode

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Smart Fan IV)
Description	Choose Control Mode. Possible values: Manual, Thermal Cruise, Speed Cruise, Smart Fan IV. Default value: Manual

PWM/DC Output

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Smart Fan IV)
Description	Select fan output signal. Possible values: PWM Duty Cycle (%), DC Voltage (%). Default value: PWM Duty Cycle (%)

Output Buffer Type

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Smart Fan IV)
Description	Select output buffer type. Possible values: Open-Drain, Push-Pull. Default value: Open-Drain

Boundary 0 (°C)

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Smart Fan IV)
Description	This value controls the temperature at which the fan speed will be set to Output 0. Default value: 30

Output 0 (%)

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Smart Fan IV)
Description	Output 0 fan speed. Value must be between 0 (Fan off) - 100 (Max fan speed). This is the speed at which the fan will run when Boundary 0 is crossed. Default value: 25

Boundary 1 (°C)

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Smart Fan IV)
Description	This value controls the temperature at which the fan speed will be set to Output 1. Default value: 40

Output 1 (%)

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Smart Fan IV)
Description	Output 1 fan speed. Value must be between 0 (Fan off) - 100 (Max fan speed). This is the speed at which the fan will run when Boundary 1 is crossed. Default value: 50

Boundary 2 (°C)

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Smart Fan IV)
Description	This value controls the temperature at which the fan speed will be set to Output 2. Default value: 50

Output 2 (%)

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Smart Fan IV)
Description	Output 2 fan speed. Value must be between 0 (Fan off) - 100 (Max fan speed). This is the speed at which the fan will run when Boundary 2 is crossed. Default value: 75

Boundary 3 (°C)

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Smart Fan IV)
Description	This value controls the temperature at which the fan speed will be set to Output 3. Default value: 60

Output 3 (%)

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Fan Control (Smart Fan IV)
Description	Output 3 fan speed. Value must be between 0 (Fan off) - 100 (Max fan speed). This is the speed at which the fan will run when Boundary 3 is crossed. Default value: 100

Advanced Page > SIO NCT5524D CHIP > Hardware Monitor

Refresh Cycle

Type	Configurable Setting
Found on BIOS Page	Advanced Page > SIO NCT5524D Chip > Hardware Monitor
Description	0: Stop updating 1-15: Seconds between sensor refresh Default value: 1

Security Page

Current TPM Device

Type	Information
Found on BIOS Page	Security Page
Description	Displays current TPM device

TPM State

Type	Information
Found on BIOS Page	Security Page
Description	Displays current TPM state

TPM Active PCR Hash Algorithm

Type	Information
Found on BIOS Page	Security Page
Description	Displays active PCR hash algorithm

TPM Hardware Supported Hash Algorithm

Type	Information
Found on BIOS Page	Security Page
Description	Displays hardware supported hash algorithm

BIOS Supported Hash Algorithm

Type	Information
Found on BIOS Page	Security Page
Description	Displays BIOS supported hash algorithm

TrEE Protocol Version

Type	Configurable Setting
Found on BIOS Page	Security Page
Description	Select TrEE Protocol Version: 1.0 or 1.1. Possible values: 1.1, 1.0. Default value: 1.1

TPM Availability

Type	Configurable Setting
Found on BIOS Page	Security Page
Description	When Hidden, don't exposes TPM to 0. Possible values: Available/Hidden. Default value: Available

TPM Operation

Type	Configurable Setting
Found on BIOS Page	Security Page
Description	Select one of the supported operation to change TPM2 state. Possible values: Enable, SetPCRBanks(Algorithm), LogAllDigests, SetPPRequiredForClear_True, SetPPRequiredForClear_False, SetPPRequiredForTurnOn_False, SetPPRequiredForTurnOn_True, SetPPRequiredForTurnOff_False, SetPPRequiredForTurnOff_True, SetPPRequiredForChangePCRs_False, SetPPRequiredForChangePCRs_True, SetPPRequiredForChangeEPS_False, SetPPRequiredForChangeEPS_True, ChangeEPS Default value: No Operation

Clear TPM

Type	Configurable Setting
Found on BIOS Page	Security Page
Description	Remove all TPM context associated with a specific owner.

Set Supervisor Password

Type	Configurable Setting
Found on BIOS Page	Security Page
Description	Install or Change the supervisor password. Note: The password must be more than one character in length.

Boot Page

Boot Type

Type	Configurable Setting
Found on BIOS Page	Boot Page
Description	Select Dual boot type, Legacy boot type or UEFI boot type. Possible values: UEFI Boot Type, Dual Boot Type, Legacy Boot Type. Default value: UEFI Boot Type

Network Stack

Type	Configurable Setting
Found on BIOS Page	Boot Page
Description	Network Stack Support: Windows 8 BitLocker Unlock UEFI IPv4/IPv6 PXE Legacy PXE OPRM Default value: Disabled

PXE Boot Capability

Type	Configurable Setting
Found on BIOS Page	Boot Page
Description	Disabled: Support Network Stack UEFI PXE: IPv4/IPv6 Possible values: Disabled, UEFI: IPv4, UEFI: IPv6, UEFI: IPv4/IPv6. Default value: Disabled (Grayed out and Disabled unless Network Stack is Enabled)

Add Boot Options

Type	Configurable Setting
Found on BIOS Page	Boot Page
Description	Position in Boot Order for Shell, Network, and Removables. Possible values: First, Last. Default value: First

USB Boot

Type	Configurable Setting
Found on BIOS Page	Boot Page
Description	Disables or enables booting to USB boot devices. Default value: Enabled

UEFI OS Fast Boot

Type	Configurable Setting
Found on BIOS Page	Boot Page
Description	If enabled the system firmware does not initialize keyboard and check for firmware menu key. Default value: Enabled

EFI

Type	Configurable Setting
Found on BIOS Page	Boot Page
Description	EFI Boot Order Settings

Exit Page

Exit Saving Changes

Type	Selectable
Found on BIOS Page	Exit Page
Description	Exit system setup and save your changes

Save Change Without Exit

Type	Selectable
Found on BIOS Page	Exit Page
Description	Save your changes without exiting setup

Exit Discarding Changes

Type	Selectable
Found on BIOS Page	Exit Page
Description	Exit system setup without saving your changes

Load Optimal Defaults

Type	Selectable
Found on BIOS Page	Exit Page
Description	Load optimal defaults

Load Custom Defaults

Type	Selectable
Found on BIOS Page	Exit Page
Description	Load custom defaults

Save Custom Defaults

Type	Selectable
Found on BIOS Page	Exit Page
Description	Save custom defaults

Discard Changes

Type	Selectable
Found on BIOS Page	Exit Page
Description	Discard changes