CLOUD15-P20

15” Rugged Smart Display with
20 Programmable function keys

USER MANUAL

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

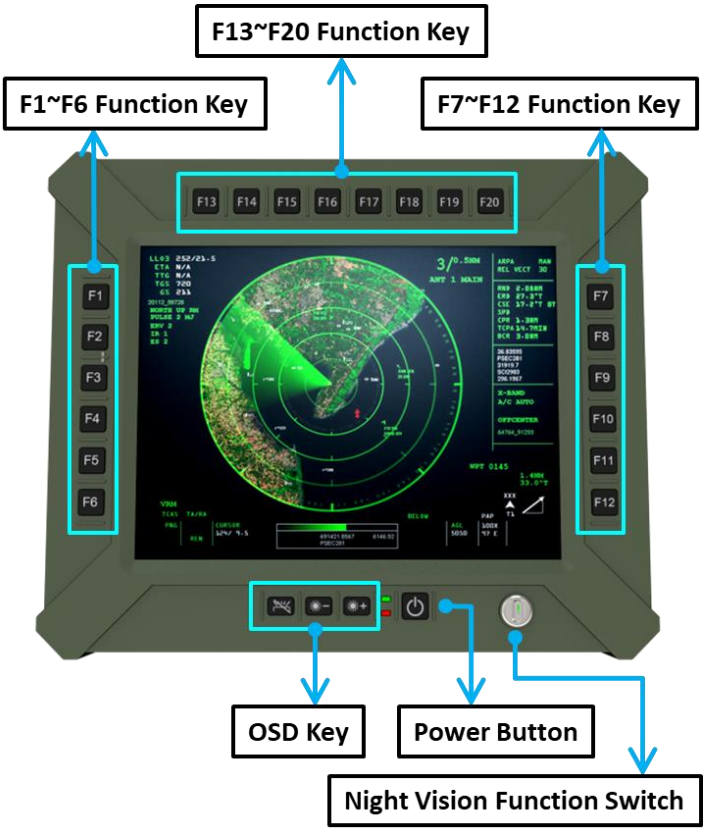
- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid 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

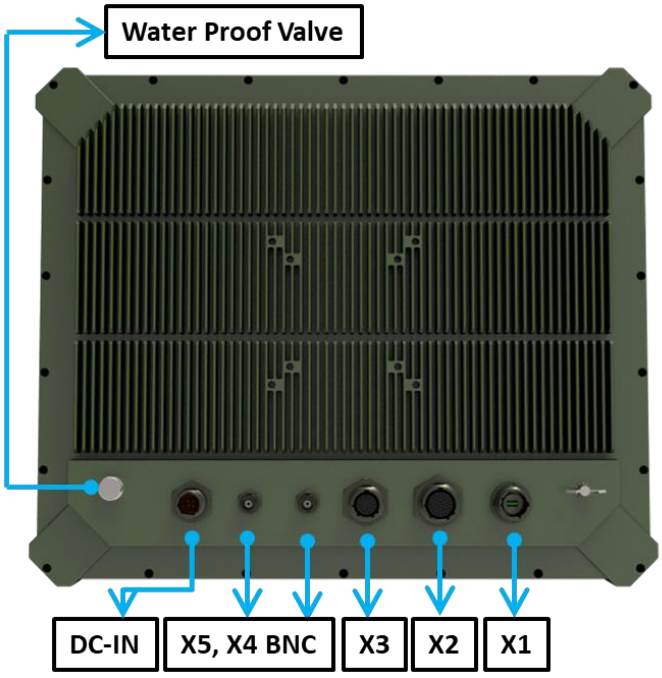
Table of content

Chapter 1: Product Introduction

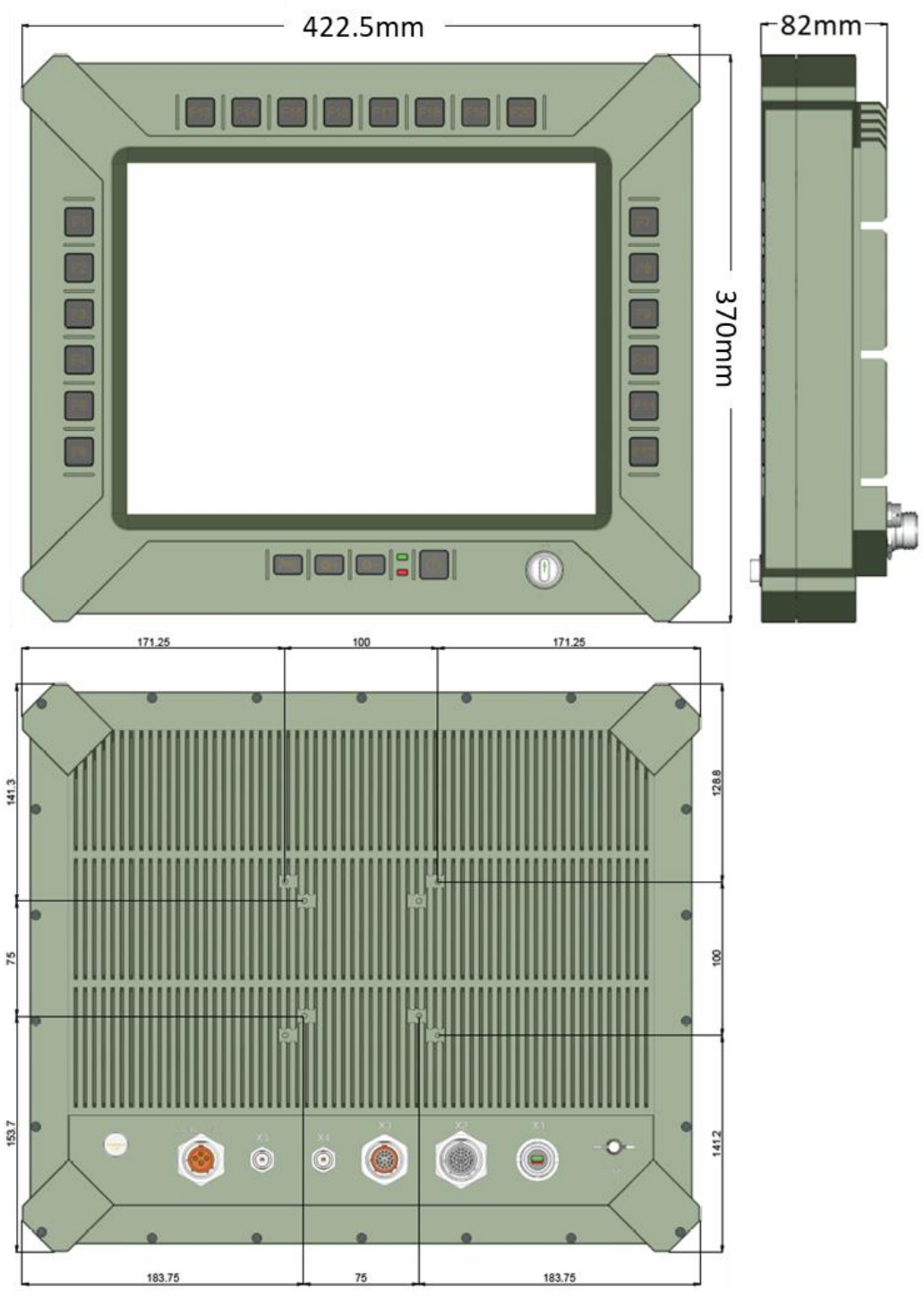
1.1 Front View



1.2 Rear View



1.3 ME Dimension



Chapter 2: Components

2.1 Location

A clean and moisture free environment is preferred. Make room for air circulation. Avoid areas with:

- Sudden or extreme changes in temperature.
- Extreme heat.
- Strong electromagnetic fields.
- Dust or high humidity.

If it is necessary to work in a hostile environment, please regularly maintain your display by cleaning dust, water, etc. to keep it in optimal condition.

2.2 Ruggedness

The display is designed with rugged features such as vibration, shock, dust and rain/water protection. However, it is still necessary to provide appropriate protection while operating in harsh environments. NEVER immerse the unit in water. Doing so may cause permanent damage. All connectors will corrode if exposed to water or moisture. Corrosion is accelerated if the system's power is ON. Please take proper water-resistant measures for cable connections.
The DC jack and cables are sealed and may be operated with water splashing while attached. All port covers should be in place when no cable is attached.

2.3 Power supply

The display can be powered via DC-IN (18~36V). Optional: MIL-STD-461, MIL-STD-1275

2.4 Display Panel

The panel of the CLOUD15 series is a 4:3,1024 x 768 XGA panel with typical 1000 cd/m2 brightness, a contrast of 2000:1 and a LED backlight.

2.4.1 Brightness

The brightness of the display can be changed by simple pressing the brightness up/down keys in normal operational mode.

2.5 Touch screen

CLOUD15 series is equipped with a 15" G.F.G touch screen. The touch screen PC can be connected and used with an external LCD panel via the mini-DP (DP by cable kit) interface. It is designed to meet requirement and environmental specifications dictated by the nature of

military systems.

15 " TFT LCD Display & Resistor Touch screen

Resolution	1024x768 XGA	**Brightness**	1000 Nits
Aspect Ratio	4:3	**Contrast Ratio**	4000
Touch Panel	Glass-Film-Glass 5-Wire resistor touch panel (Optional)		

Chapter 3: Specification

3.1 System Specification

CPU	**Intel® Xeon® W-11865MLE Processor (8 Core, 24M Cache, up to 4.50 GHz), TDP25W** **Intel® Xeon® W-11865MRE Processor (8 Core, 24M Cache, up to 4.70 GHz), TDP45W**
Memory type	**3x DDR4 3200 MHz, 260-pin SO-DIMM, up to 96GB, Non-ECC memory**
Graphics	**Intel® UHD Graphics for 11th Gen Intel® Processors**
Display interface	**Mini-DP (DP by Cable kit)**
Storage	**1 x SATA III/1x SATA power header; 1 x M.2 B Key SATA III/USB2.0/PCIe x1**
Ethernet	**Intel® I225-LM 2.5GbE LAN + Intel® I219-LM Giga LAN**
Audio	**Realtek® ALC256/ALC888S**
I/O Chipset	**Nuvoton NCT6126D**
TPM	**Nuvoton NPCT750AABYX TPM2.0**
Triple Mode	**Day Mode: Ultra-Brightness 1000 nits** **Night Mode: NVIS (Dimmable under 1% Nits)** **Invisible Mode: Backlight off**
OSD keys	**Backlight Dim+** **Backlight Dim-** **Function key backlight On/Off**
Function Keys	**20 Soft programmable function Buttons + 1 power button (On/Off)**
DC-IN	**18V ~ 36 VDC-IN** **Optional: MIL-STD-461, MIL-STD-1275,**
Connectors	
IO Ports	**[X1] 1x mini-DP (Amphenol MDPFTV7AGF312)**
	[X2] 2x USB2.0 + 2x RS232
	[X3] 2x LAN (GbE)
	[X4, X5]: 1x BNC
Applications	
Applications	Marine, Naval, Ground and Airborne environment.
OS	Windows® 11 64-bit, Linux (Support by request)

Physical

Dimension	**442.5 x 370 x 82 mm (W x H x D), Weight: 4.5kg,**		
Finish	**Anodic aluminum oxide**		
Chassis	**Aluminum Alloy, Corrosion Resistant.**	**Ingress Protection**	IP65 Dust /water Proof

MIL Compliance

MIL-STD-810 (Operation Test)		
Low Temp.	Method 502.5	9 Exposure(24h x 3 cycle) at -10℃ min.
High Temp.	Method 501.5	60ºC for 2 hrs after temperature stabilization
Humidity	Method 507.5	RH -95%. Test cycles: ten 24-hrs , functional test after 5th and 10th cycles
Vibration	Method 514.6	10-500Hz 1.04Grms Test duration: 1 hr x 3 axis (total 3 hrs)
Shock	Method 516.6	20G, 11mSec, 3 per axis
MIL-STD-810 (Non-Operating Tests)		
Low Temp.	Method 502.5	Exposure(24h x 7 cycle) at -20℃ min.
High Temp.	Method501.5	71ºC for 2 hrs after temperature stabilization.
Vibration	Method 514.6	200 to 2000Hz Test duration: 1hr per axis; rms = 7.7 gs
Shock	Method 516.6	20G, 11mSec, 3 per axis

MIL-STD-461	
CE102	2 MHz - 30 MHz
RE102	1.5 MHz -30 MHz - 5 GHz
RS103	1.5 MHz - 5 GHz

Environmental Qualifications

Regulatory	CE ,FCC Compliance
Operation Temp.	-40°C~60°C (ambient with air flow)
Storage Temp.	-40~+85°C

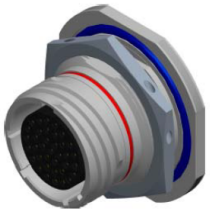
3.2 Interface

3.2.1 (X1) 1x Mini-DP connector

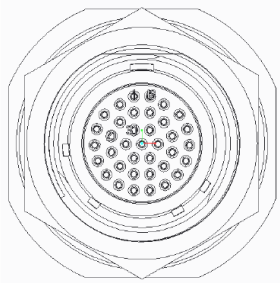
AMPHENOL MDFTV7AG312

3.2.2 (X2) 2x USB2.0 + 2x RS232 & Cable kit connector

AMPHENOL TVS07RF-15-35S



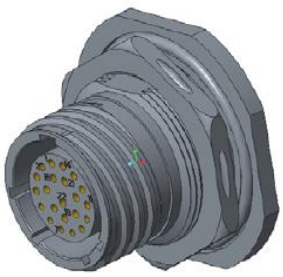
AMPHENOL TVS07RF-15-35S

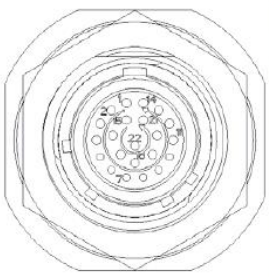


TVS07RF-15-35S	RS232 (COM1)	TVS07RF-15-35S	RS232 (COM2)	TVS07RF-15-35S	USB2.0
1	DCD	5	DCD	10	VCC
2	RX	6	RX	11	D-
3	TX	7	TX	12	D+
4	RTR	8	DTR	13	GND
19	GND	9	GND		
20	DSR	22	DSR	25	VCC
21	RTS	23	RTS	26	D-
31	CTS	24	CTS	27	D+
32	RI	33	RI	34	GND

3.2.3 (X3) 2x 1GbE LAN & Cable kit connector

AMPHENOL TV07RW-13-35S



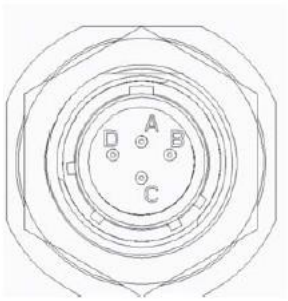


TV07RW -13-35S	RJ45				TV07RW -12-35S	RJ45		
1	1	WHITE/ORANGE	TP1+		8	1	WHITE/ORANGE	TP1+
2	2	ORANGE	TP1-		9	2	ORANGE	TP1-
3	3	WHITE/GREEN	TP2+		10	3	WHITE/GREEN	TP2+
4	6	GREEN	TP2-		11	6	GREEN	TP2-
5	4	BLUE	TP3+		12	4	BLUE	TP3+
6	5	WHITE/BLUE	TP3-		13	5	WHITE/BLUE	TP3-
15	7	WHITE/BROWN	TP4+		19	7	WHITE/BROWN	TP4+
16	8	BROWN	TP4-		20	8	BROWN	TP4-
7					14			
17					21			
18					22			
SHELL	SHELL		SHELL GND		SHELL	SHELL		SHELL GND

3.2.4 (X4, X5) 1x BNC connector

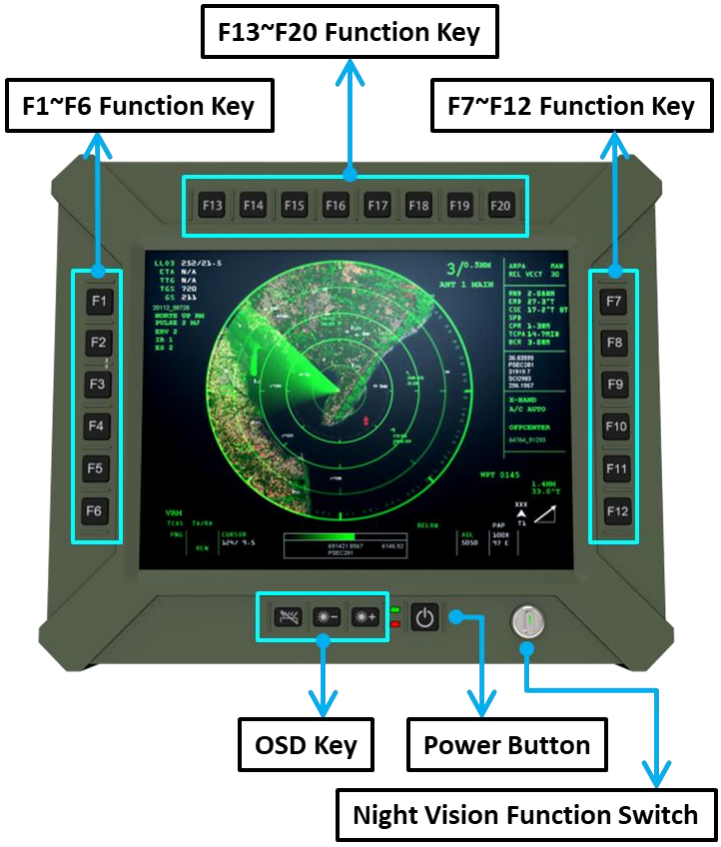
3.2.5 (DC-IN) 1x DC-IN connector

AMPHENOL TV07RW-13-4P



TV07RW -13-4P		Pin Define
A		Vin +
B		Vin +
C		Vin -
D		Vin -

Chapter 4: Operation Introduction



4.1 F1~F20 Function Keys

Programming function keys could be customized depend on customer's requirement.

4.2 Power Button

Turn the Panel PC powe on by pressing the power button. Turn the display Off by pressing the power button again.
PS: When ambient temperature is under -20 °C, heater will be enabled automatically to increase ambient temperature until over than -20°C, system power boot up automatically.

4.3 LED Indicators

Blue: When adapter is connected to DC connector.

Red: When heater is enabled.

4.4 Brightness Up or Down

Dim+:LCD backlight increase

Dim-:LCD backlight decrease

4.5 Fn-key backlight on off

Turn the Fn-key backlight on/off by pressing the Fn-key backlight on/off button.

4.6 NVIS Mode

NVIS: LCD Backlight<1.7 nits, keypad backlight and Led indicator off.

On: LCD Backlight 0~1000 nits, keypad backlight and led indicator on and can be controlled formally.

Off: LCD Backlight off, keypad backlight and led indicator off.

Chapter 5: BIOS Setup

Overview

The BIOS is a program that takes care of the basic level of communication between the CPU and peripherals. It contains codes for various advanced features found in this system board. The BIOS allows you to configure the system and save the configuration in a battery-backed CMOS so that the data retains even when the power is off. In general, the information stored in the CMOS RAM of the EEPROM will stay unchanged unless a configuration change has been made such as a hard drive replaced or a device added.

It is possible that the CMOS battery will fail causing CMOS data loss. If this happens, you need to install a new CMOS battery and reconfigure the BIOS settings.

Note:
The BIOS is constantly updated to improve the performance of the system board; therefore the BIOS screens in this chapter may not appear the same as the actual one. These screens are for reference purpose only.

Default Configuration

Most of the configuration settings are either predefined according to the Load Optimal Defaults settings which are stored in the BIOS or are automatically detected and configured without requiring any actions. There are a few settings that you may need to change depending on your system configuration.

Entering the BIOS Setup Utility

The BIOS Setup Utility can only be operated from the keyboard and all commands are keyboard commands. The commands are available at the right side of each setup screen.

The BIOS Setup Utility does not require an operating system to run. After you power up the system, the BIOS message appears on the screen and the memory count begins. After the memory test, the message "Press DEL to run setup" will appear on the screen. If the message disappears before you respond, restart the system or press the "Reset" button. You may also restart the system by pressing the <Ctrl> <Alt> and <Del> keys simultaneously.

Legends

KEYs	Function
Right and Left Arrows	Moves the highlight left or right to select a menu.
Up and Down Arrows	Moves the highlight up or down between

	submenus or fields.
<Esc>	Exits to the BIOS setup utility
+ (plus key)	Scrolls forward through the values or options of the hightlighted field.
- (minus key)	Scolls backward through the values or options of the hightlighted field.
<F1>	Displays general help
<F2>	Displays previous values
<F9>	Optimized defaults
<F10>	Saves and reset the setup program.
<Enter>	Press <Enter> to enter the highlighted

Scroll Bar

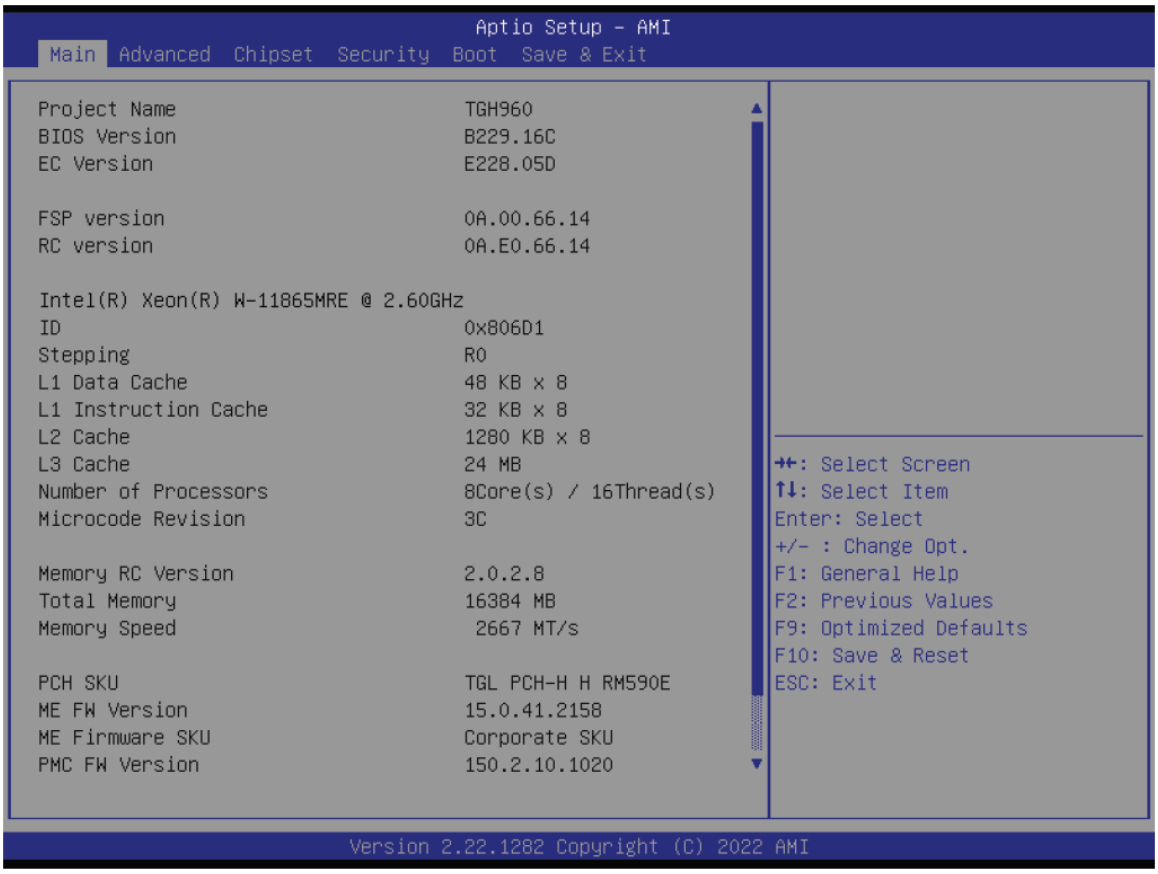
When a scroll bar appears to the right of the setup screen, it indicates that there are more available fields not shown on the screen. Use the up and down arrow keys to scroll through all the available fields.

Submenu

When "►" appears on the left of a particular field, it indicates that a submenu which contains additional options are available for that field. To display the submenu, move the highlight to that field and press <Enter>.

5.1 Main Page

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



System Date

The date format is <month>, <date>, <year>. Press "Tab" to switch to the next field and press "-" or "+" to modify the value.

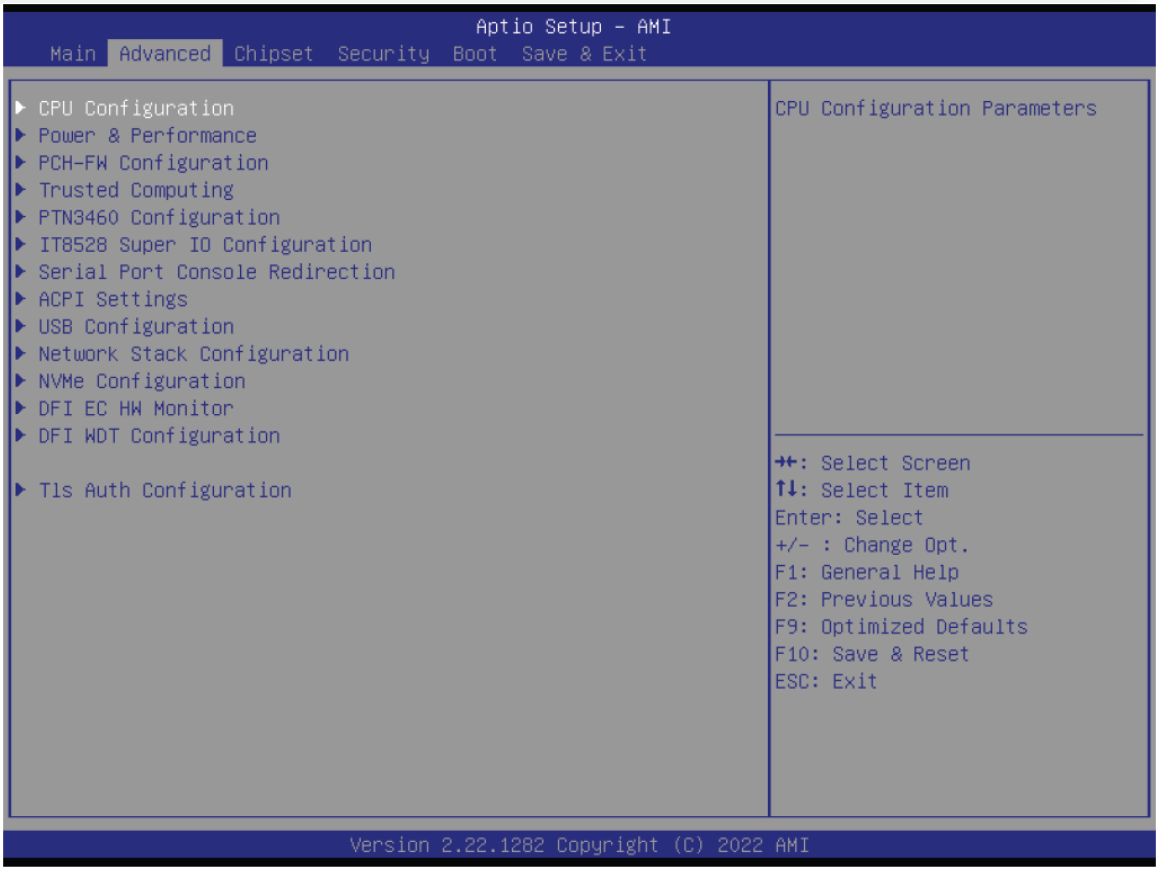
System Time

The time format is <hour>, <minute>, <second>. The time is based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00. Hour displays hours from 00 to 23. Minute displays minutes from 00 to 59. Second displays seconds from 00 to 59.

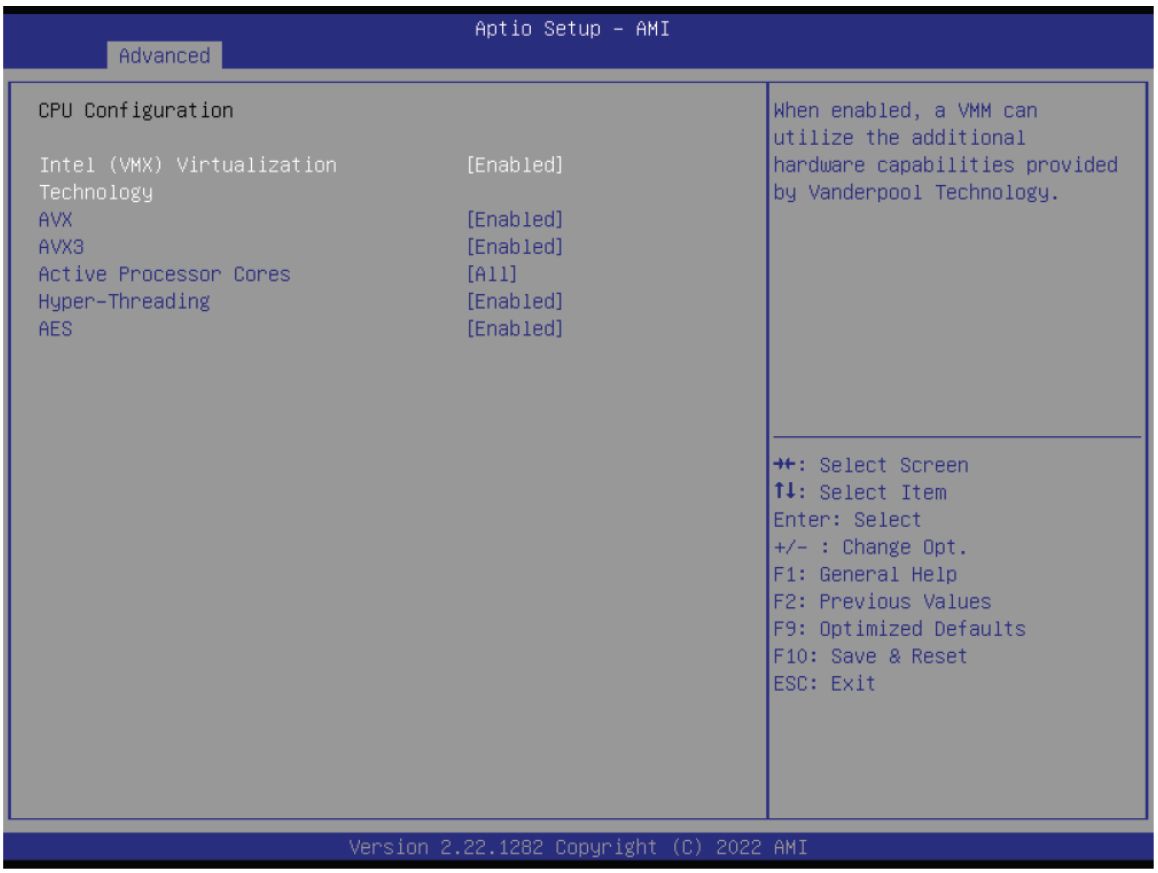
5.2 Advanced Page

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.

Important:
Setting incorrect field values may cause the system to malfunction.



5.2.1 CPU Configuration



Intel (VMX) Virtualization Technology

When this field is set to Enabled, the VMM can utilize the additional hardware capabilities pro-vided by Vanderpool Technology.

Active Processor Cores

Select number of cores to enable in each processor package.

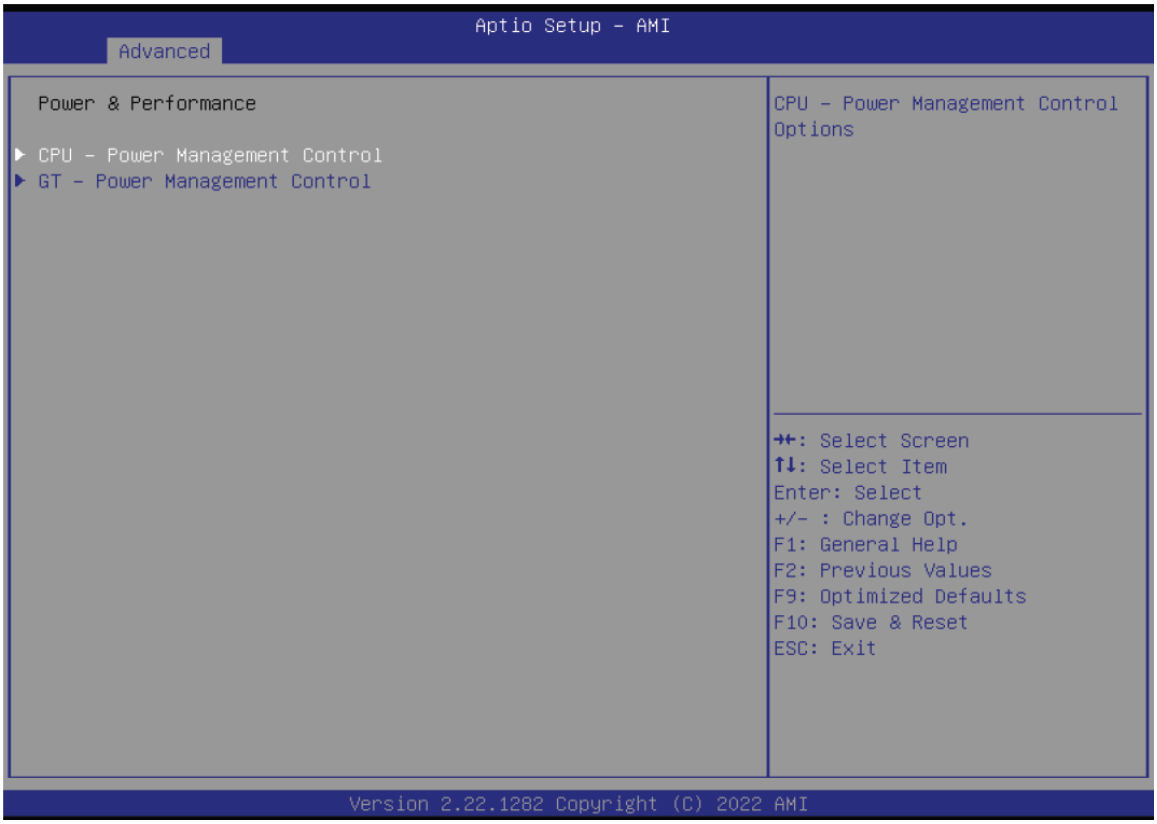
Hyper-threading

Enables this field for Windows XP and Linux which are optimized for Hyper-Threading technol-ogy. Select disabled for other OSes not optimized for Hyper-Threading technology. When dis-abled, only one thread per enabled core is enabled.

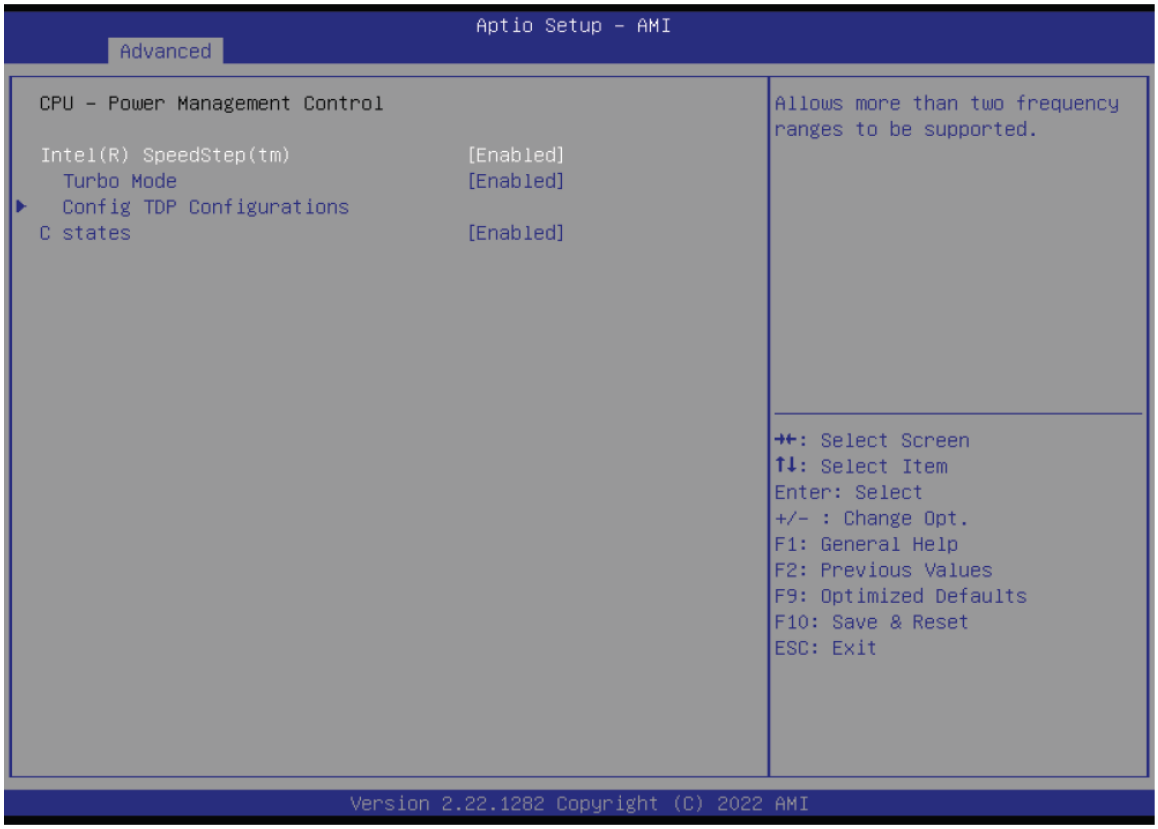
AES

Enable/Disable AES (Advanced Encryption Standard)

5.2.2 Power & Performance



5.2.2.1 CPU- Power Management Control



Intel (R) SpeedStep(tm)

This field is used to enable or disable the Intel SpeedStep® Technology, which helps optimize the balance between system's power consumption and performance. After it is enabled in the BIOS, EIST features can then be enabled via the operating system's power management.

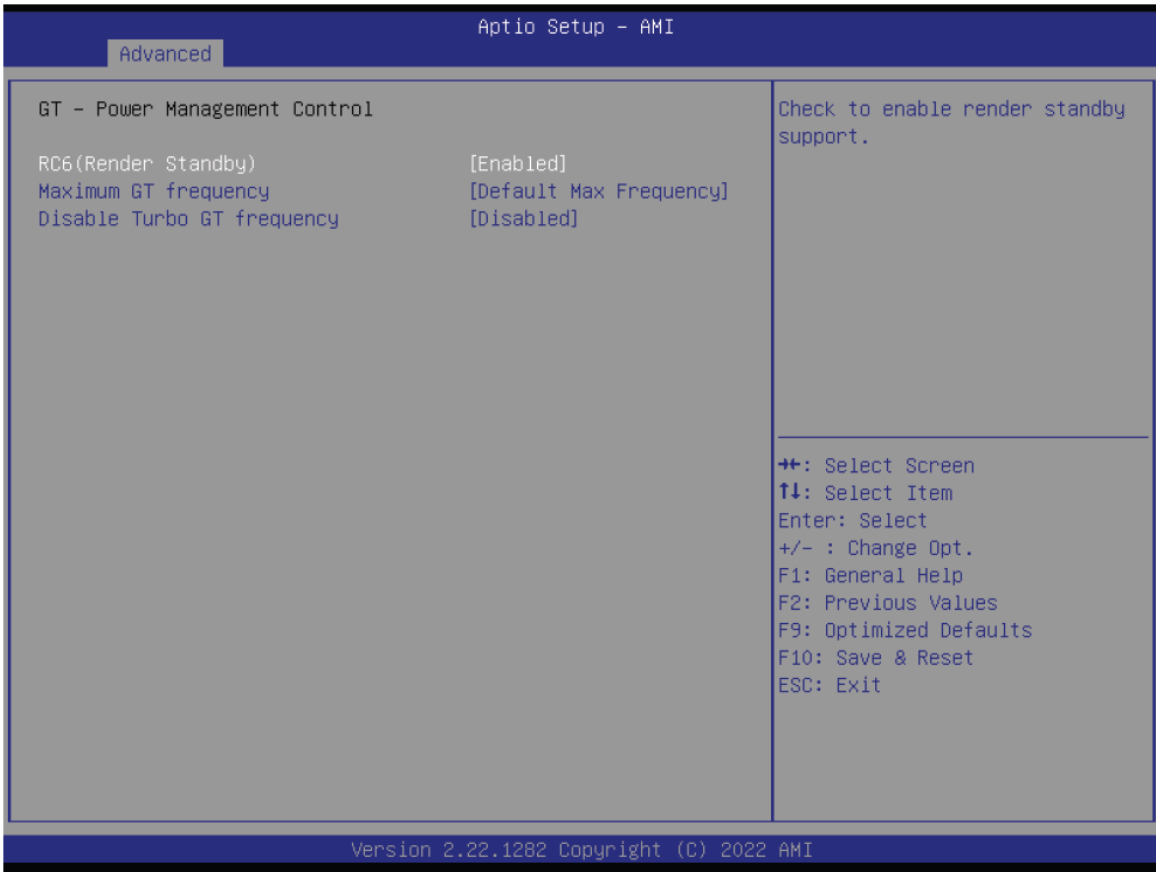
Turbo Mode

Enable or disable turbo mode of the processor. This field will only be displayed when EIST is enabled.

C states

Enable or disable CPU Power Management. It allows CPU to enter "C states" when it's not 100% utilized.

5.2.2.2 GT- Power Management Control



RC6 (Render Standby)

Check to enable render standby support.

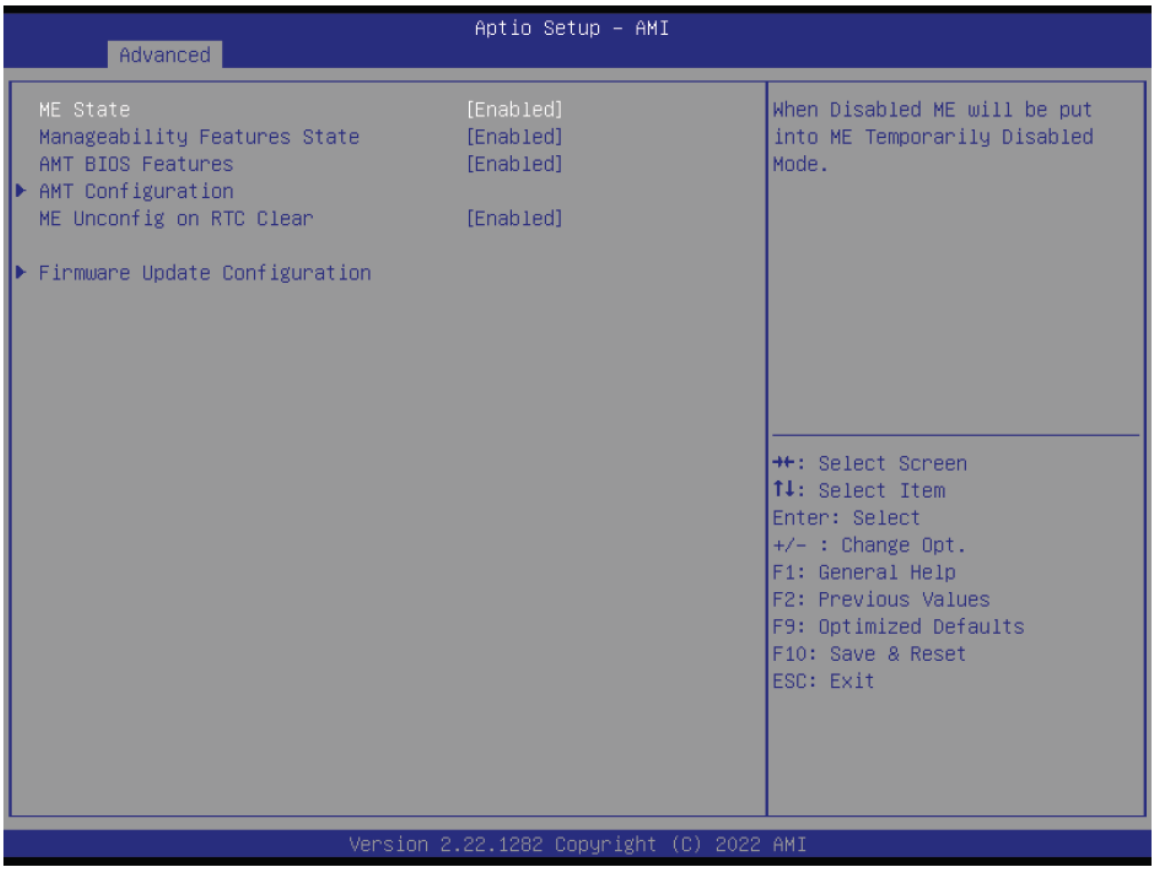
Maximum GT frequency

Maximum GT frequency limited by the user. Choose between 100MHz (RPN) and 1200MHZ(RPO). Value beyond the range will be clipped to min/max supported by SKU

Disable Turbo GT frequency

Enabled: Disables Turbo GT frequency. Disabled: GT frequency is not limited

5.2.3 PCH-FW Configuration



ME State

Enable or disable Management Engine. When this field is set to Disabled, ME will be put into ME Temporarily Disabled Mode. The following fields will only appear when ME State is enabled.

Manageability Features State

Enable or disable Intel(R) Manageability features. This option disables/enables Manageability Features support in FW. To disable, support platform must be in an unprovisioned state first.

AMT BIOS Features

When disabled, AMT BIOS features are no longer supported and user is no longer able to access MEBx Setup. This option does not disable manageability features in FW.

AMT Configuration

This section is used to configure Intel(R) Active Management Technology Parameters. Please refer to the following pages.

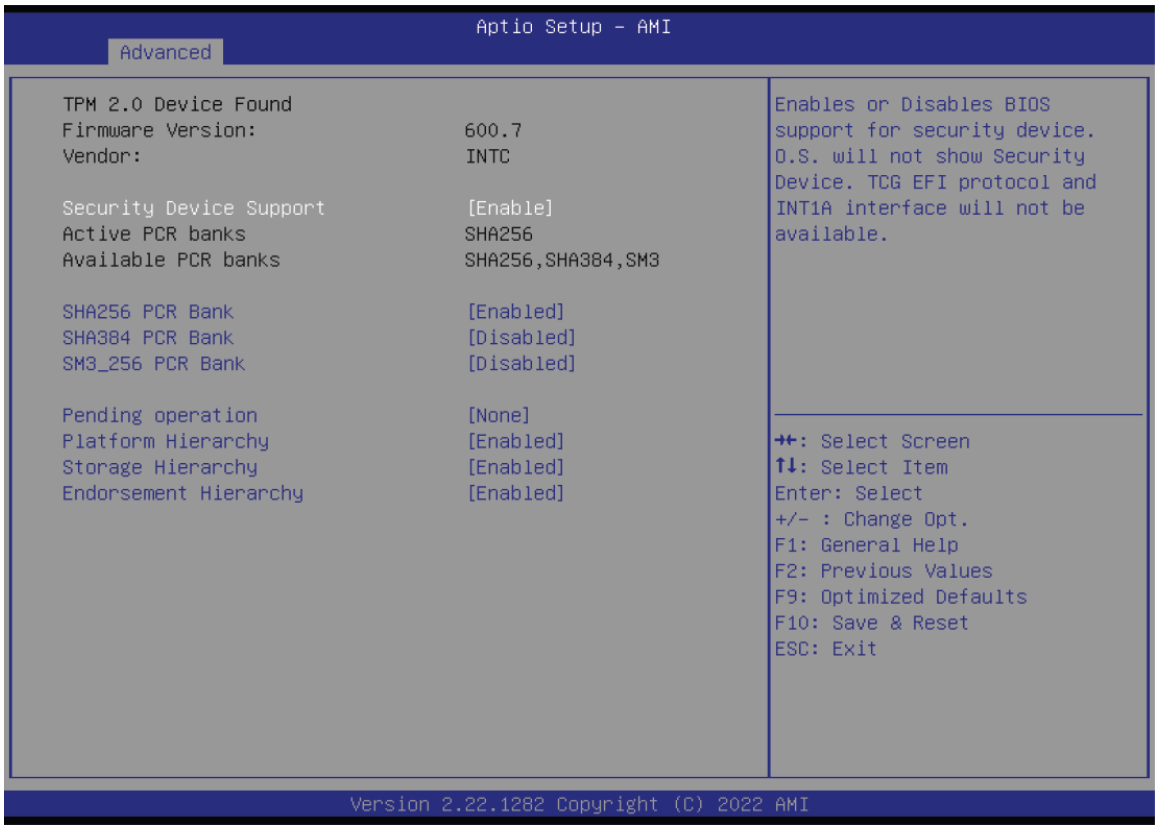
ME Unconfig on RTC Clear

When disabled, ME will not be unconfigured on RTC Clear.

Firmware Update Configuration

Please refer to the following pages.

5.2.4 Trusted Computing



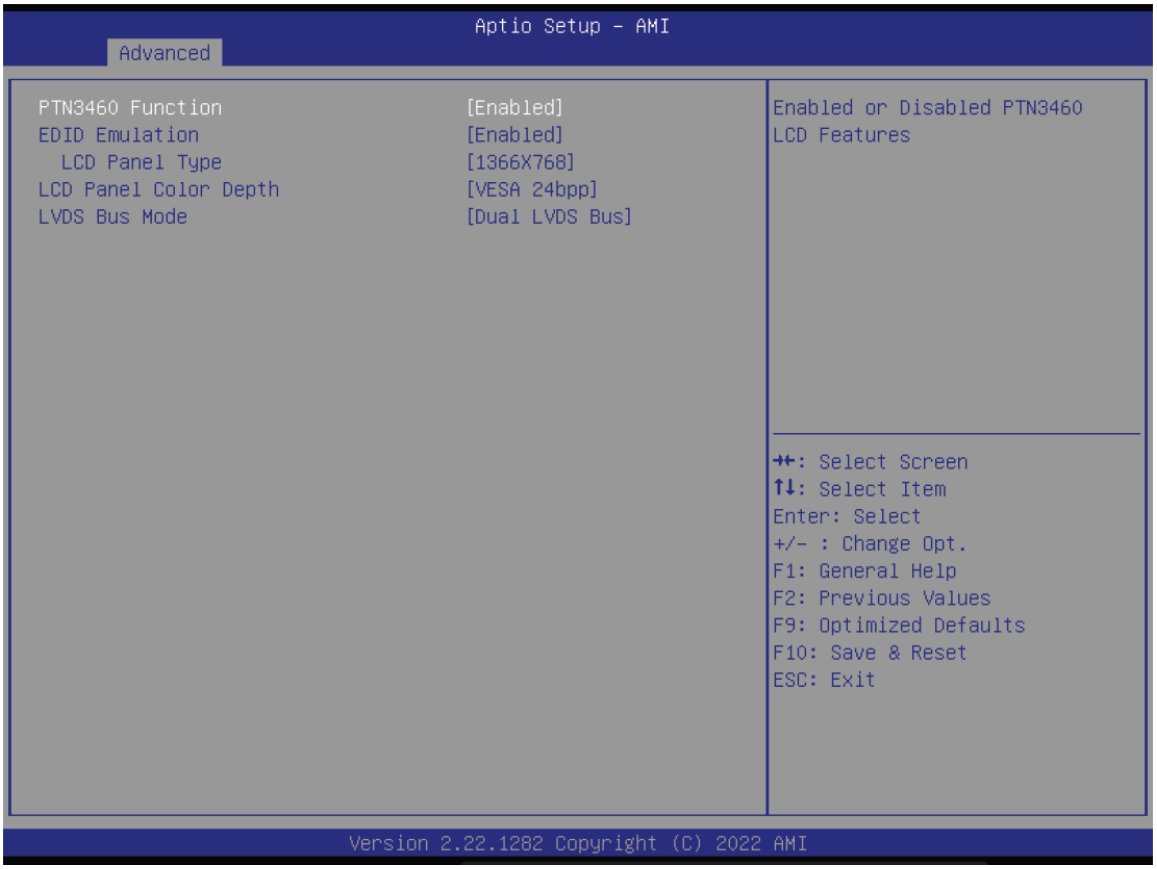
Security Device Support

This field is used to enable or disable BIOS support for the security device such as an TPM 2.0 to achieve hardware-level security via cryptographic keys. TCG EFI protocol and INT1A interface will not be available.

Pending operation

To clear the existing TPM encryption, select "TPM Clear" and restart the system. This field is not available when "Security Device Support" is disabled. Schedule an Operation for the security Device. NOTE: Your computer will reboot during restart in order to change State of Security Device.

5.2.5 PTN3460 Configuration



PTN3460 Function

Enable or Disable PTN3460 LCD Features. When this field is disabled, the following fields will remain hidden.

EDID Emulation

Enable or Disable PTN3460 EDID Emulation Mode
It might cause system shutdown when disable EDID emulation with PTN3460 chip on the board.

LCD Panel Type

Select the resolution of the LCD Panel — 800X480, 800X600, 1024X768, 1366X768, 1280X1024, 1920X1080, or 1920X1200.

LCD Panel Color Depth

Select the color depth of the LCD Panel — VESA 24bpp, JEIDA 24bpp, VESA and JEIDA 18 bpp.

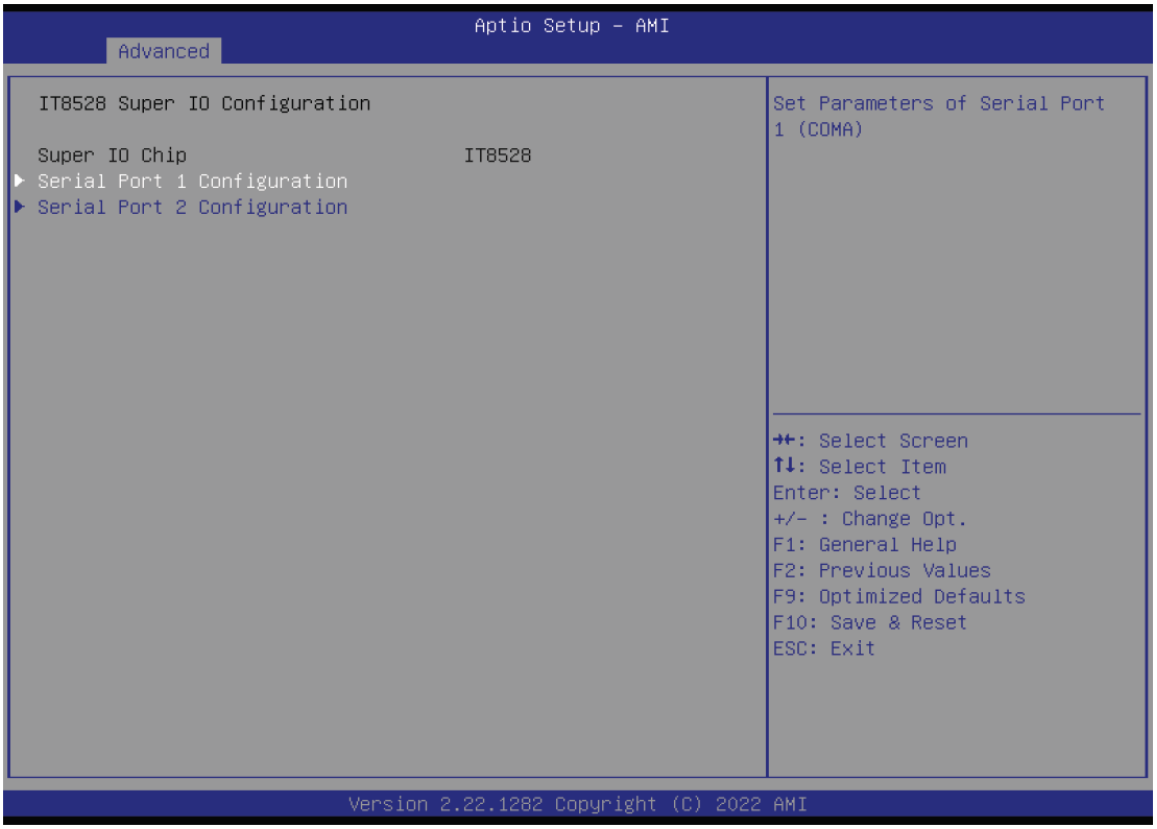
LVDS Bus Mode

Select PTN3460 LVDS BUS Mode — Single LVDS Bus /Dual LVDS Bus

Note:
The configuration must match the specifications of your LCD Panel in order for the LCD Panel to display properly.

Note:
It might cause system hang-up when disable EDID emulation with PTN3460 chip on the board.

5.2.6 IT8528 Super IO Configuration



Serial Port 1 Configuration

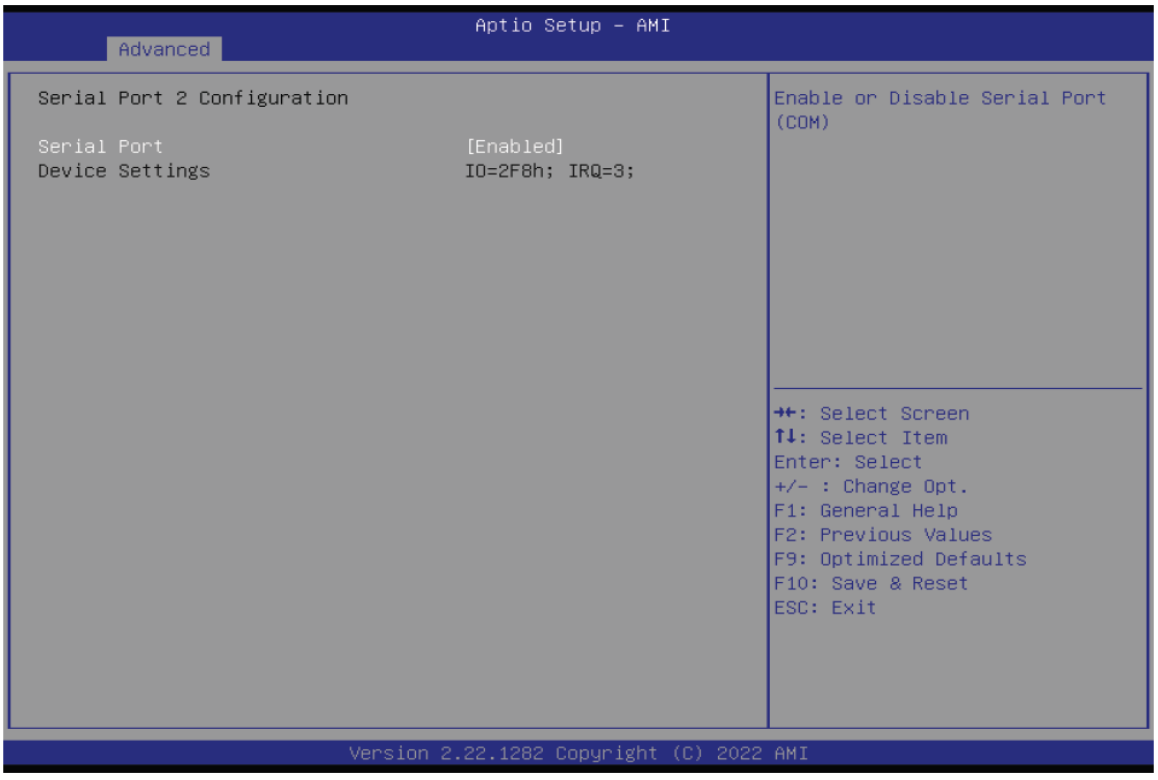
Set Parameters of Serial Port 1 (COMA)

Serial Port 2 Configuration

Set Parameters of Serial Port 2 (COMB)

Note:
The sub-menus are detailed in following sections.

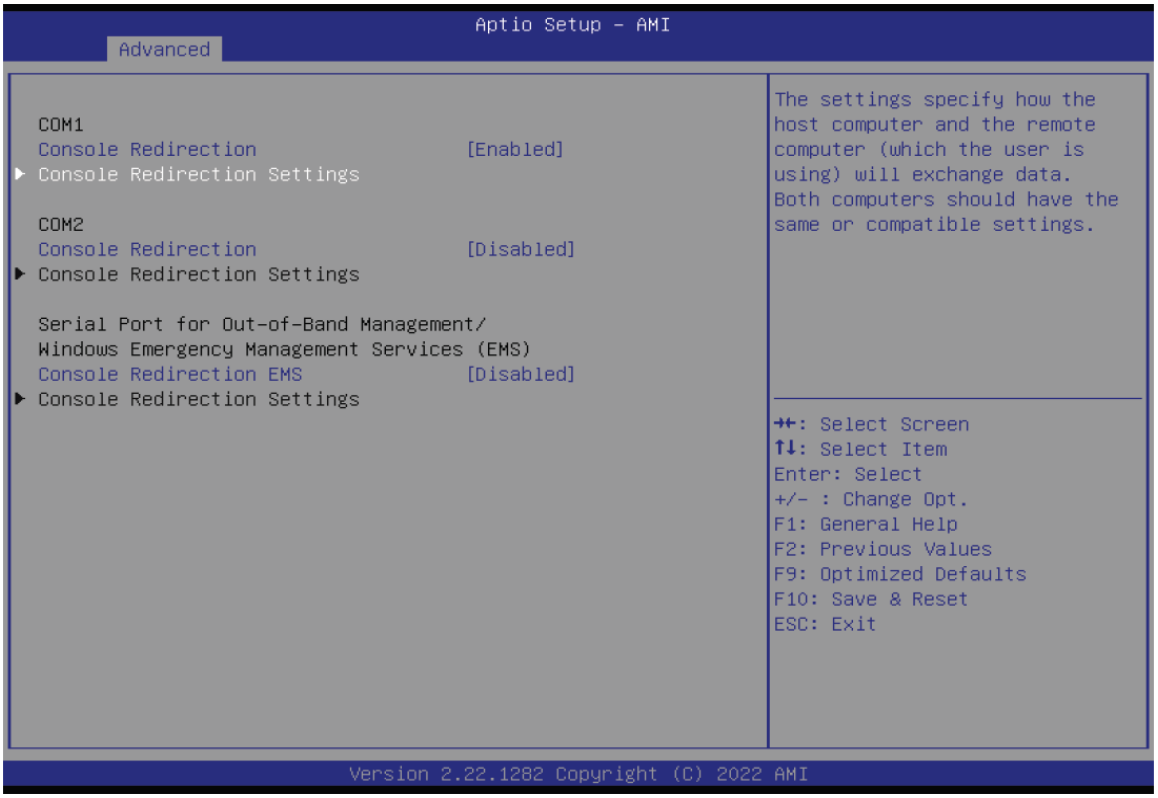
5.2.6.1 Serial Port 1, 2 Configuration



Serial Port

Enable or disable serial port.

5.2.7 Serial Port Console Redirection



Console Redirection

By enabling Console Redirection of a COM port, the sub-menu of console redirection settings will become available for configuration as detailed in the following.

5.2.7.1 Console Redirection Settings

Configure the serial settings of the current COM port.

Terminal Type

Select terminal type: VT100, VT100+, VT-UTF8 or ANSI.

Bits per second

Select serial port transmission speed: 9600, 19200, 38400, 57600 or 115200.

Data Bits

Select data bits: 7 bits or 8 bits.

Parity

Select parity bits: None, Even, Odd, Mark or Space.

Stop Bits

Select stop bits: 1 bit or 2 bits.

VT-UTF8 Combo Key Support

Enable or disable VT-UTF8 Combination Key Support for ANSI/VT100 terminals.

Recorder Mode

With this mode enabled only text will be sent. This is to capture Terminal data.

Resolution 100x31

Enables or disables extended terminal resolution.

Putty Keypad

Select FunctionKey and KeyPad on Putty.

VT100

LINUX

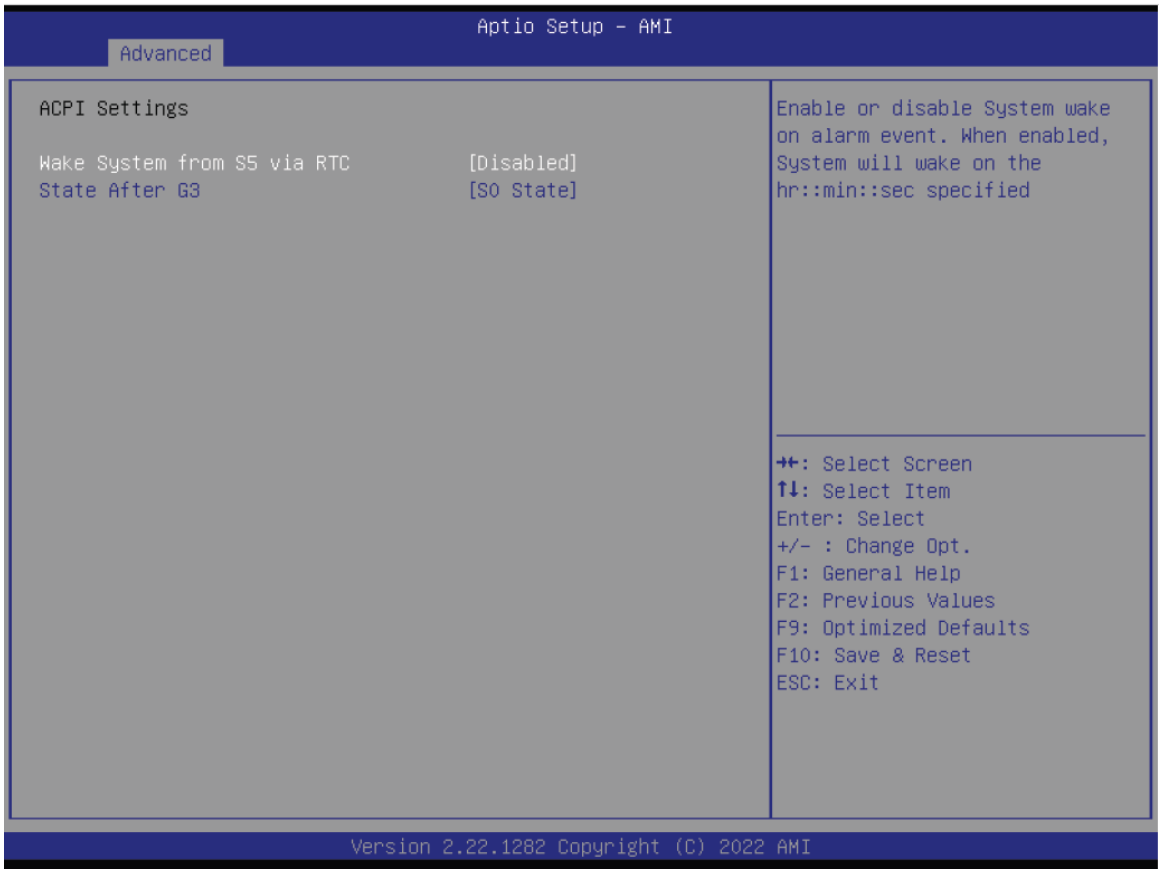
XTERMR6

SCO

ESCN

VT400

5.2.8 ACPI Setting



Wake system from S5 via RTC

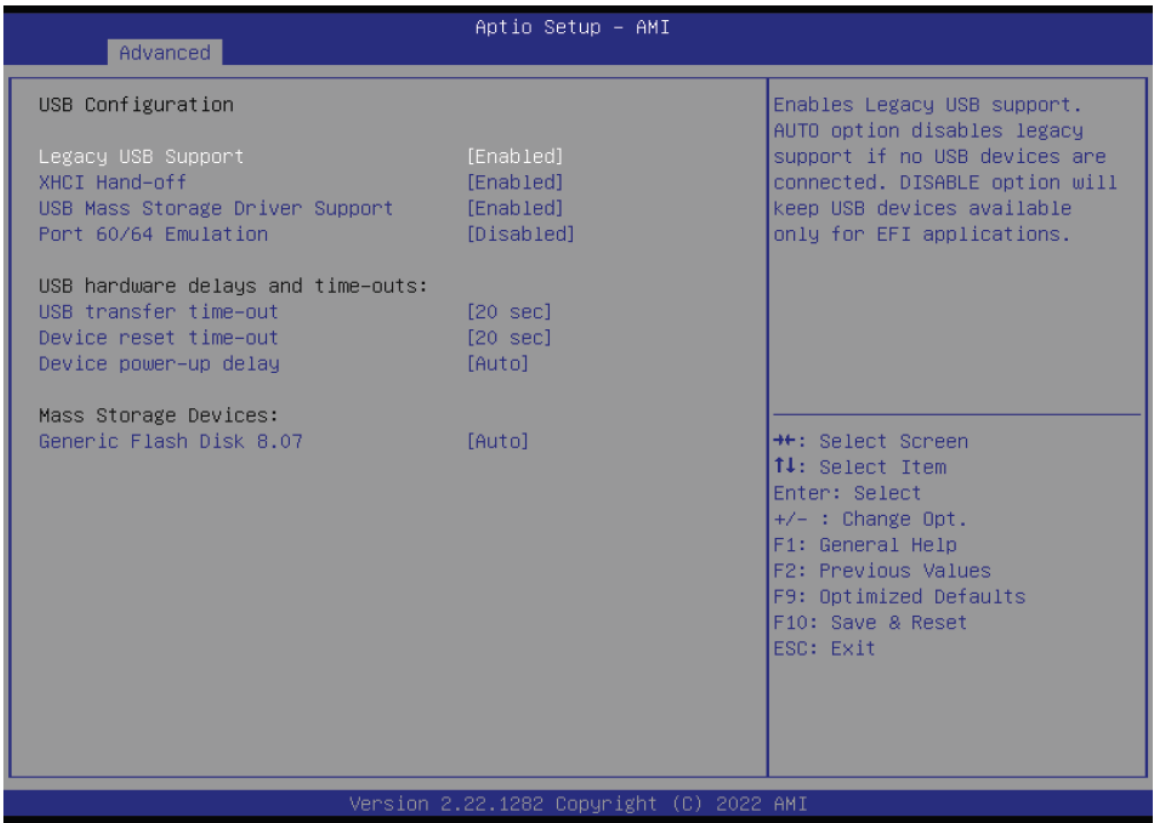
When Enabled, the system will automatically power up at a designated time every day. Once it's switched to [Enabled], please set up the time of day — hour, minute, and second — for the system to wake up.

State After G3

Select between S0 State, and S5 State. This field is used to specify what state the system is set to return to when power is re-applied after a power failure (G3 state).

- **S0 State** The system automatically powers on after power failure.
- **S5 State** The system enter soft-off state after power failure. Power-on signal input is required to power up the system.
- **Last State** The system returns to the last state right before power failure.

5.2.9 USB Configuration



Legacy USB Support

- **Enabled** Enable Legacy USB support.
- **Disabled** Keep USB devices available only for EFI applications.
- **Auto** Disable Legacy support if no USB devices are connected.

XHCI Hand-off

Enable or disable XHCI Hand-off.

This is a workaround for OSes without XHCI hand-off support.

The XHCI ownership change should be claimed by XHCI driver.

USB Mass Storage Driver Support

Enable or disable USB Mass Storage Driver Support.

Port 60/64 Emulation

Enables I/O port 60h/64h emulation support. This should be enabled for the complete USB keyboard legacy support for non-USB aware OSes.

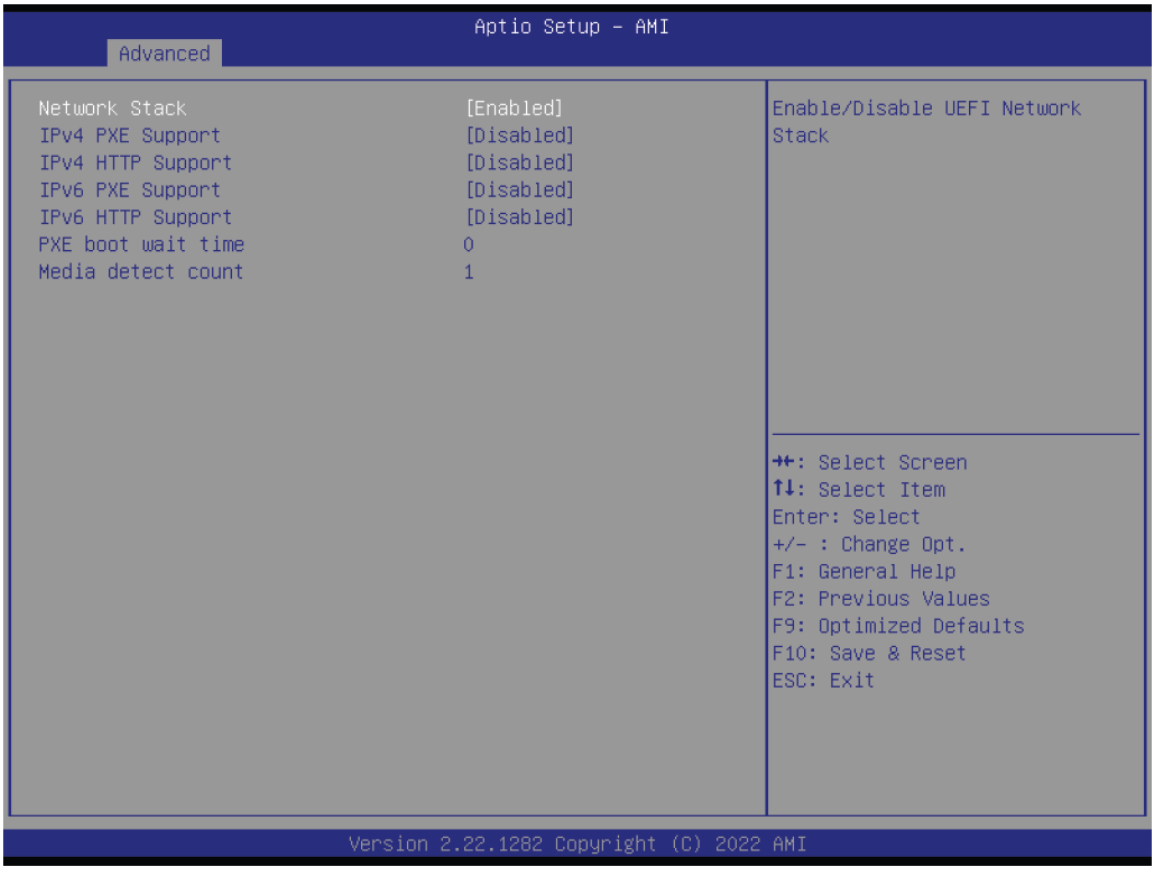
USB hardware delays and time-outs:

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

Device reset time-out : USB mass storage device Start Unit command time-out.

Device power-up delay : 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 100 ms, for a Hub port the delay is taken from Hub descriptor

5.2.10 Network Stack Configuration



Network Stack

Enable or disable UEFI network stack. The following fields will appear when this field is en-abled.

Ipv4 PXE Support

Enable or disable IPv4 PXE boot support. If disabled, IPv4 PXE boot support will not be avail-able.

Ipv4 HTTP Support

Enable or disable IPv4 HTTP boot support. If disabled, IPv4 HTTP boot support will not be avail-able.

Ipv6 PXE Support

Enable or disable IPv6 PXE boot support. If disabled, IPv6 PXE boot support will not be avail-able.

Ipv6 HTTP Support

Enable or disable IPv6 HTTP boot support. If disabled, IPv6 HTTP boot support will not be avail-able.

PXE boot wait time

Set the wait time in seconds to press ESC key to abort the PXE boot. Use either +/- or numeric keys to set the value.

Media detect count

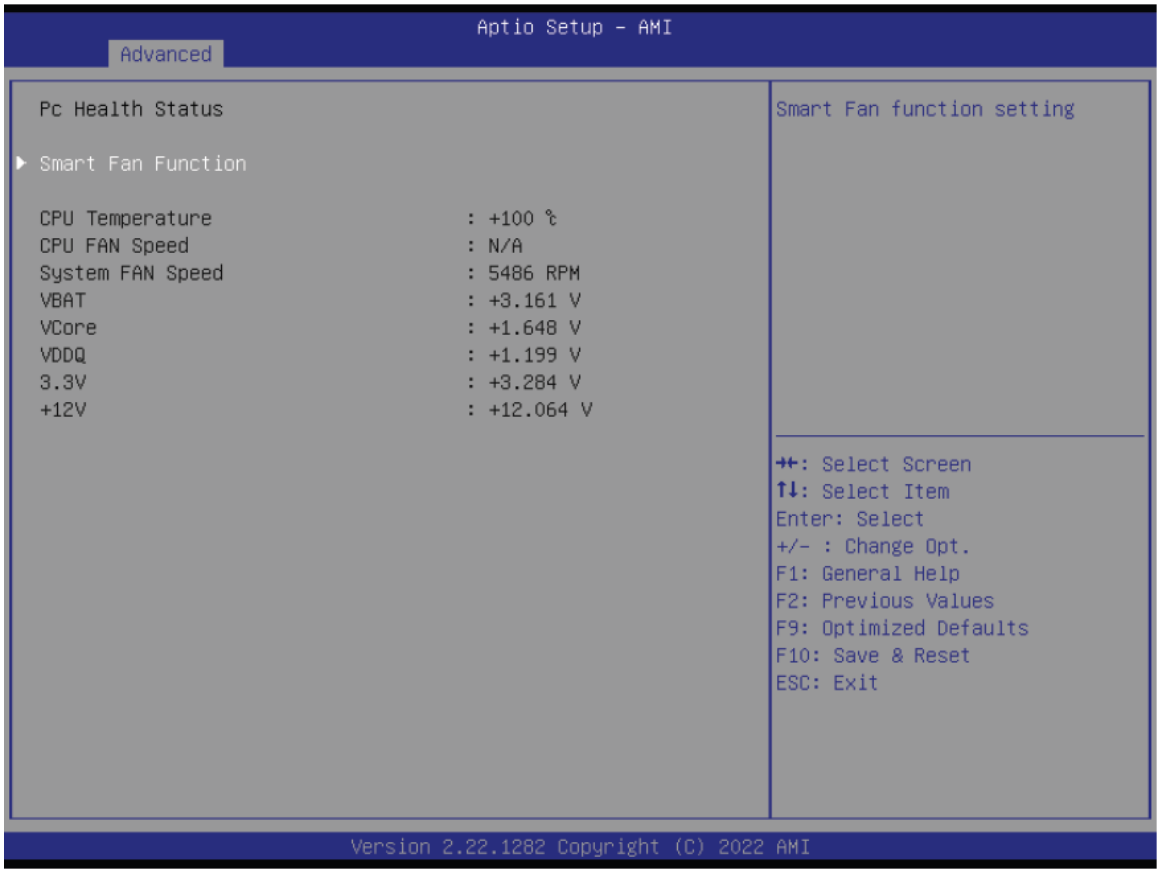
Set the number of times the presence of media will be checked. Use either +/- or numeric keys to set the value.

5.2.1 1 NVMe Configuration

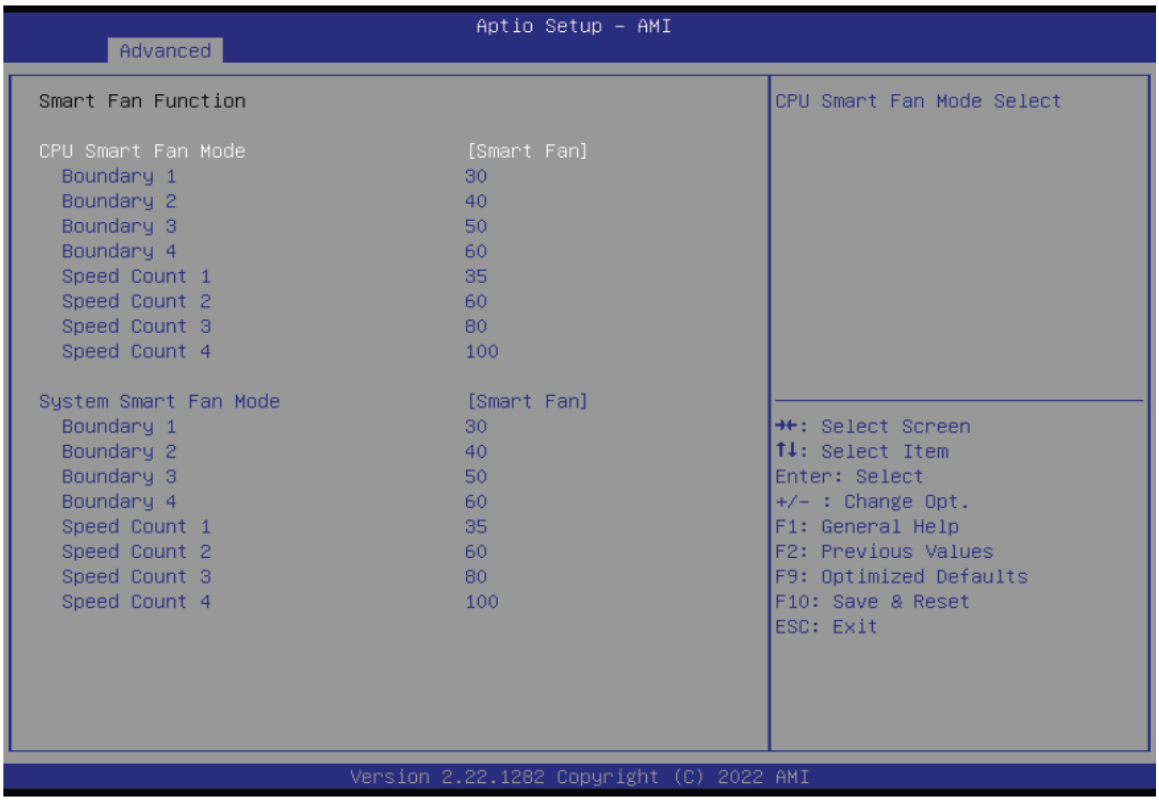
NVMe Configuration

NVMe Device Options Settings

5.2.12 DFI EC HW Monitor



5.2.12.1 Smart Fan Function



Smart Fan is a fan speed moderation strategy dependent on the current system temperature. When the system temperature goes higher than the Boundary setting, the fan speed will be turned up to the setting of the Fan Speed Count that bears the same index as the Boundary field.

▼ CPU/SYS Smart Fan Mode = [Smart Fan]

Boundary 1 to Boundary 4

Set the boundary temperatures that determine the fan speeds accordingly, the value ranging from 0-127℃. For example, when the system temperature reaches Boundary 1 setting, the fan speed will be turned up to the designated speed of the Fan Speed Count 1 field.

Fan Speed Count 1 to Fan Speed Count 4

Set the fan speed, the value ranging from 1-100%, 100% being full speed. The fans will operate according to the specified boundary temperatures above-mentioned.

▼ CPU/SYS Smart Fan Mode = [Manual Mode]

Fix Fan Speed Count

Set the fan speed, the value ranging from 1-100%, 100% being full speed. The fans will always operate at the specified speed regardless of gauged temperatures.

5.2.13 DFI WDT Configuration

Watchdog Timer

Enable or disable watchdog timer.

Output Options

Mode1 = A Watchdog timeout causes the system to be reset.
Mode2 = WDT pin goes high upon timeout of the watchdog timer.
Mode3 = Generate NMI upon timeout of the watchdog timer.

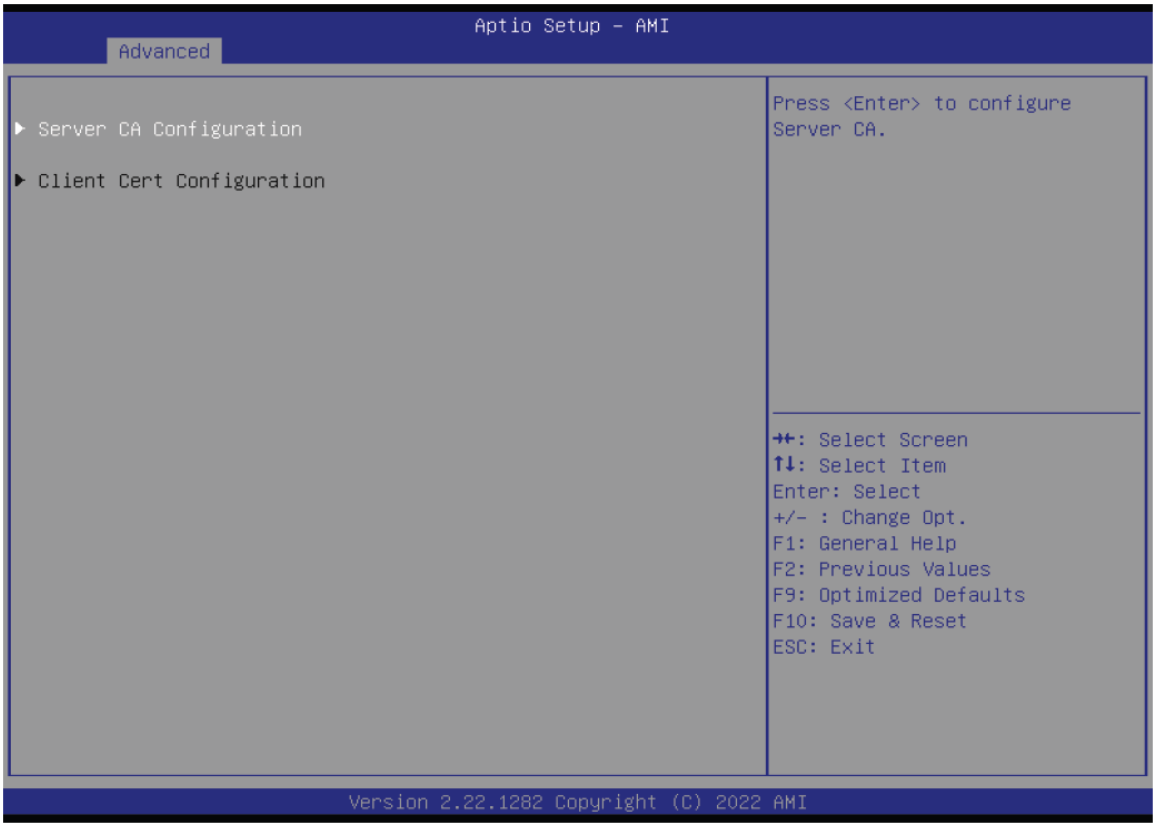
Enable Delay

The enable delay allows time for the OS to boot and the application to load and initialize. The unit is 1 sec.

Timeout Delay

The timeout delay allows time for period of the watchdog timer. The unit is 0.1 sec.

5.2.14 TLS AUTH CONFIGURATION



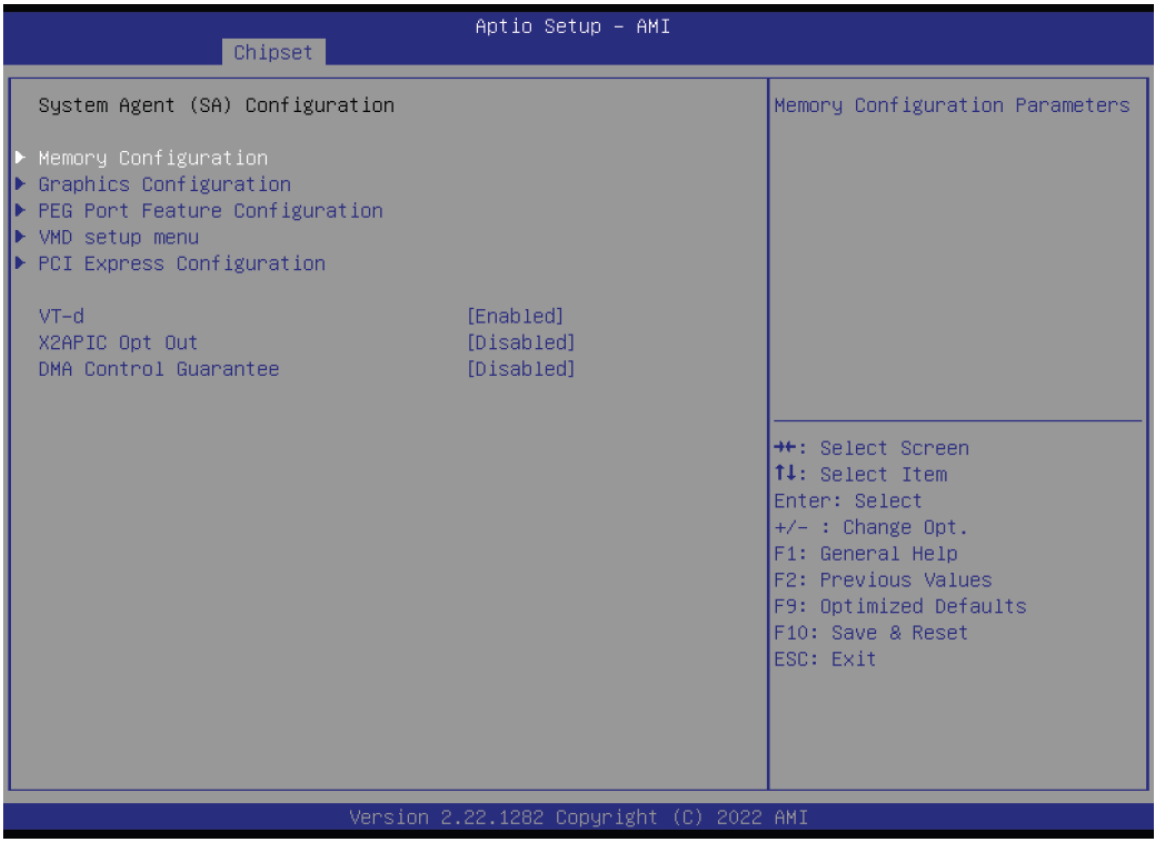
Server CA Configuration

Press <Enter> to configure Server CA.

5.3 Chipset

Please select a submenu and press Enter. The submenus are detailed in the following pages.

5.3.1 System Agnet (SA) Configuration



Memory Configuration

Memory Configuration Parameter.

Graphics Configuration

Settings about graphic.

VMD setup menu

VMD Configuration Settings

PCI Express Configuration :

VT-d

VT-d capability.

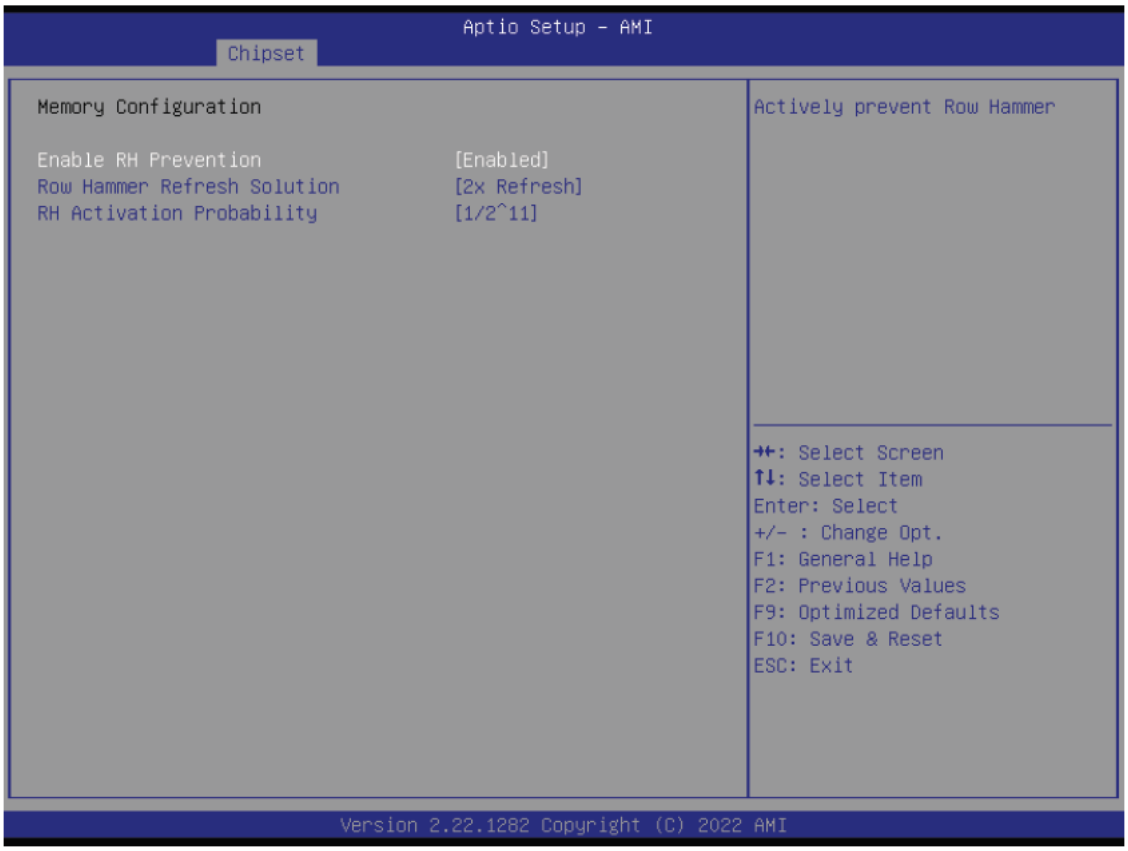
X2APIC Opt Out

Enable/Disable X2APIC_OPT_OUT bit

DMA Control Guarantee

Enable/Disable DMA_Control_Guarantee bit

5.3.1.1. Memory Configuration



Enable RH Prevention

Actively prevent Row Hammer.

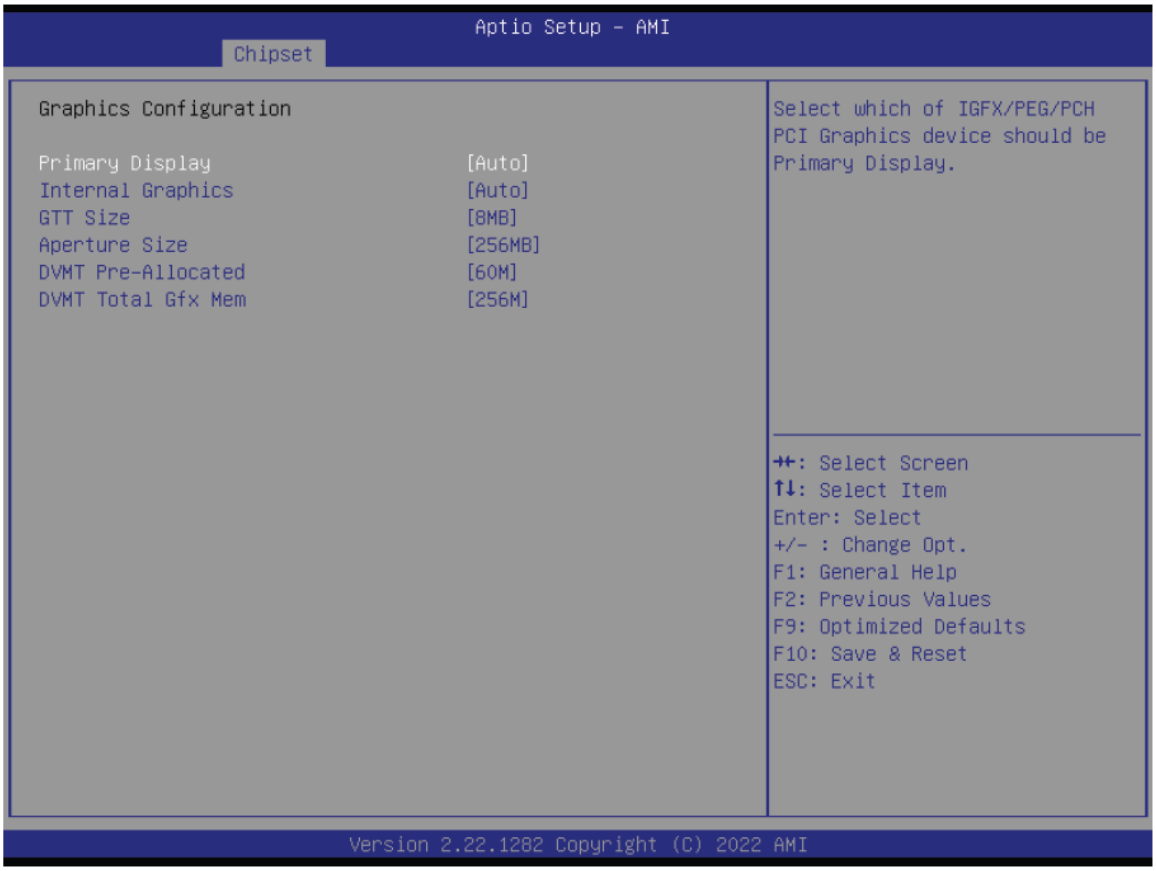
Row Hammer Refresh Solution

Type of Refresh Rate used to prevent Row Hammer: 2x Refresh, 4x Refresh or NORMAL Refresh.

RH Activation Probability

Used to adjust MC for Hardware RHP, select between: 1/2^1 ~ 1/2^15

5.3.1.2. Graphics Configuration



Primary Display

Select which of IGFX/PEG/PCH PCI Graphics device should be Primary Display.

Internal Graphics

Keep IGFX enabled based on the setup options.

GTT Size

Select the GTT Size.

Aperture Size

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.

DVMT Pre-Allocated

Select DVMT 5.0 Pre-Allocated (Fixed) Graphics Memory size used by the Internal Graphics Device.

DVMT Total Gfx Mem

Select DVMT5.0 Total Graphic Memory size used by the Internal Graphics Device.

5.3.1.3. VMD Setup Menu

Enable VMD Controller

Enable/Disable to VMD controller.

Enable VMD Global Mapping

Enable/Disable to Enable VMD Global Mapping.

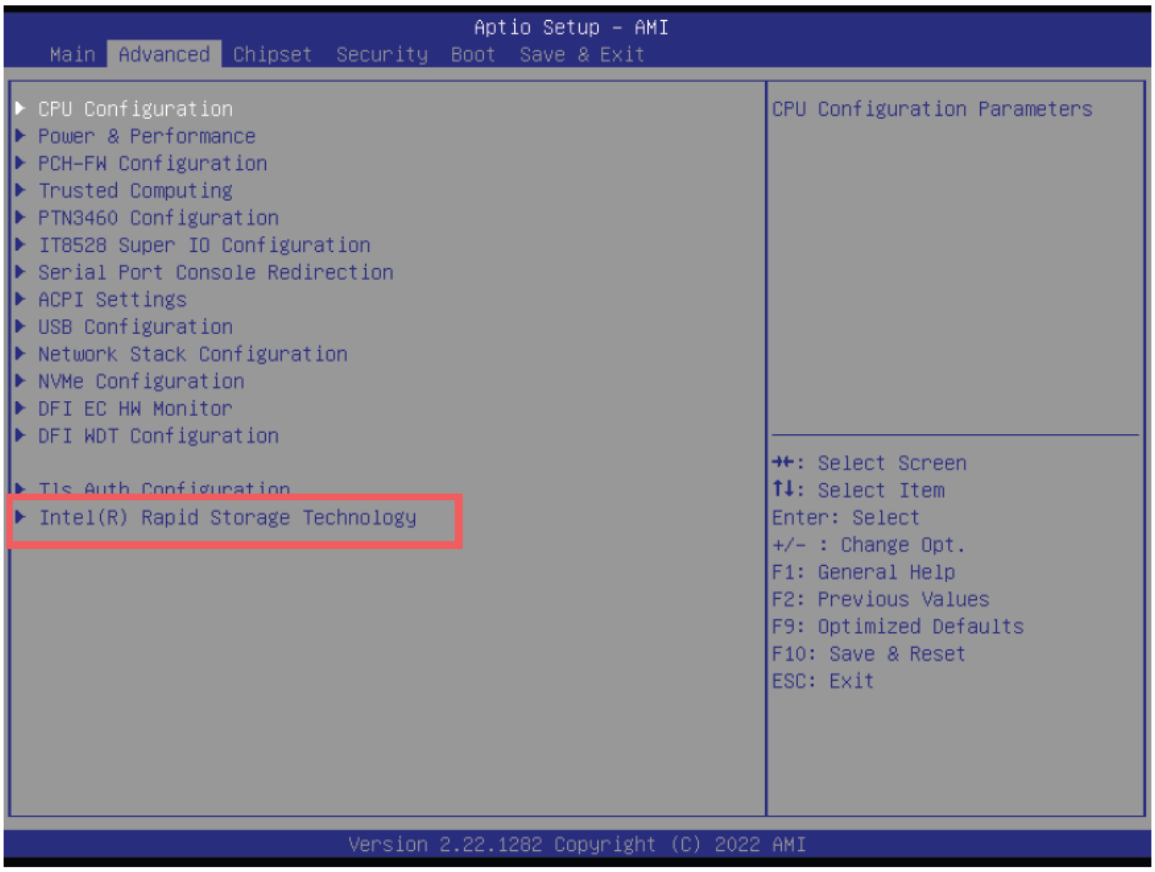
> **Note:**
> Intel® Rapid Storage Technology will appear in **Advanced** menu when enabled VMD global mapping.

5.3.1.4. Intel® Rapid Storage Technology

Step 1. Go to【**Chipset**】--->【System Agnet (SA) Configuration ► VMD Setup Menu】 to **enable VMD Global Mapping**

Step 2. Go to 【**Save & Exit**】 to save the setting and restart BIOS

Step 3. Go to 【**Advanced**】 and locate 【**Intel® Rapid Storage Technology** 】


Aptio Setup - AMI
Main Advanced Chipset Security Boot Save & Exit
CPU Configuration
Power & Performance
PCH-FW Configuration
Trusted Computing
PTN3460 Configuration
IT8528 Super IO Configuration
Serial Port Console Redirection
ACPI Settings
USB Configuration
Network Stack Configuration
NVMe Configuration
DFI EC HW Monitor
DFI WDT Configuration
Intel(R) Rapid Storage Technology
CPU Configuration Parameters
→←: Select Screen
↑↓: Select Item
Enter: Select
+/- : Change Opt.
F1: General Help
F2: Previous Values
F9: Optimized Defaults
F10: Save & Reset
ESC: Exit
Version 2.22.1282 Copyright (C) 2022 AMI


Aptio Setup - AMI
Advanced
Intel(R) RST 18.1.1.5201 RST VMD Driver
Non-RAID Physical Disks:
PCIe 1.0, MTFDHBL064TDQ 21242F8D5224, 59.6GB
Select to see more information about the disk
→←: Select Screen
↑↓: Select Item
Enter: Select
+/- : Change Opt.
F1: General Help
F2: Previous Values
F9: Optimized Defaults
F10: Save & Reset
ESC: Exit
Version 2.22.1282 Copyright (C) 2022 AMI

5.3.2. PCH-IO Configuration

PCI Express Configuration

PCI Express Configuration Settings

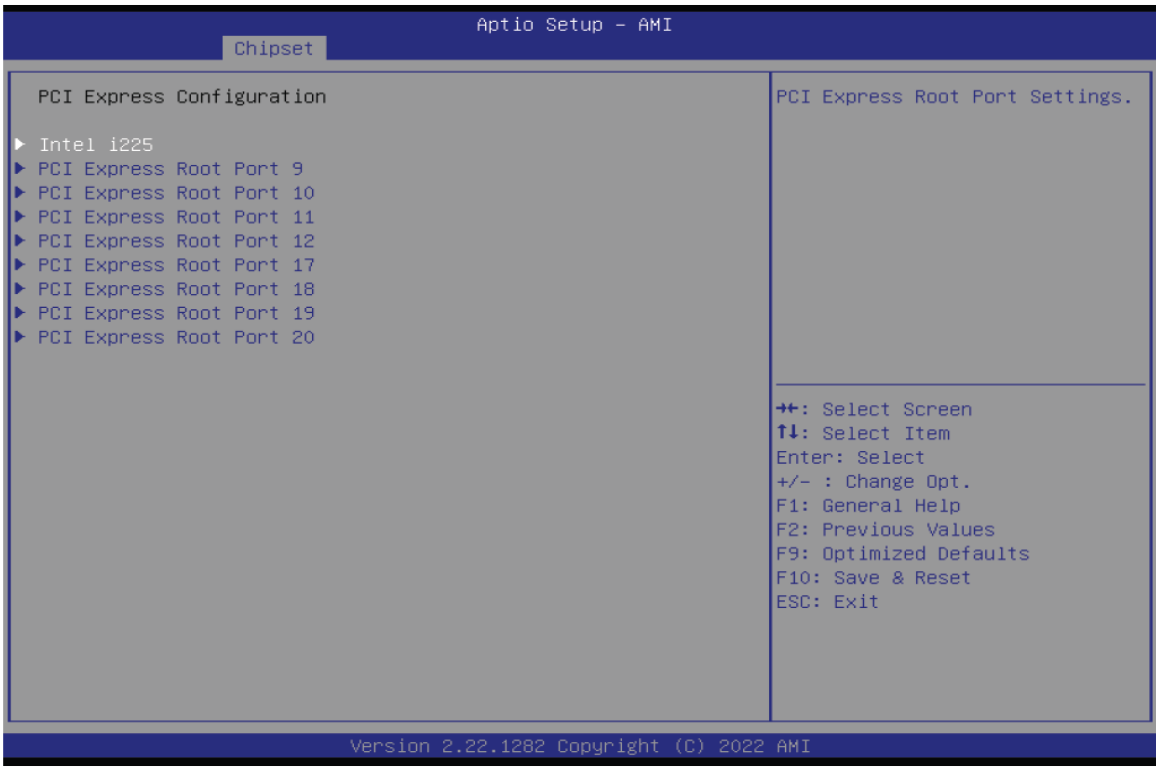
SATA And RST Configuration

SATA Device Otpions Settings

HD Audio Configuration

HD Audio Subsystem Configuration Settings

5.3.2.1. PCI Express Configuration

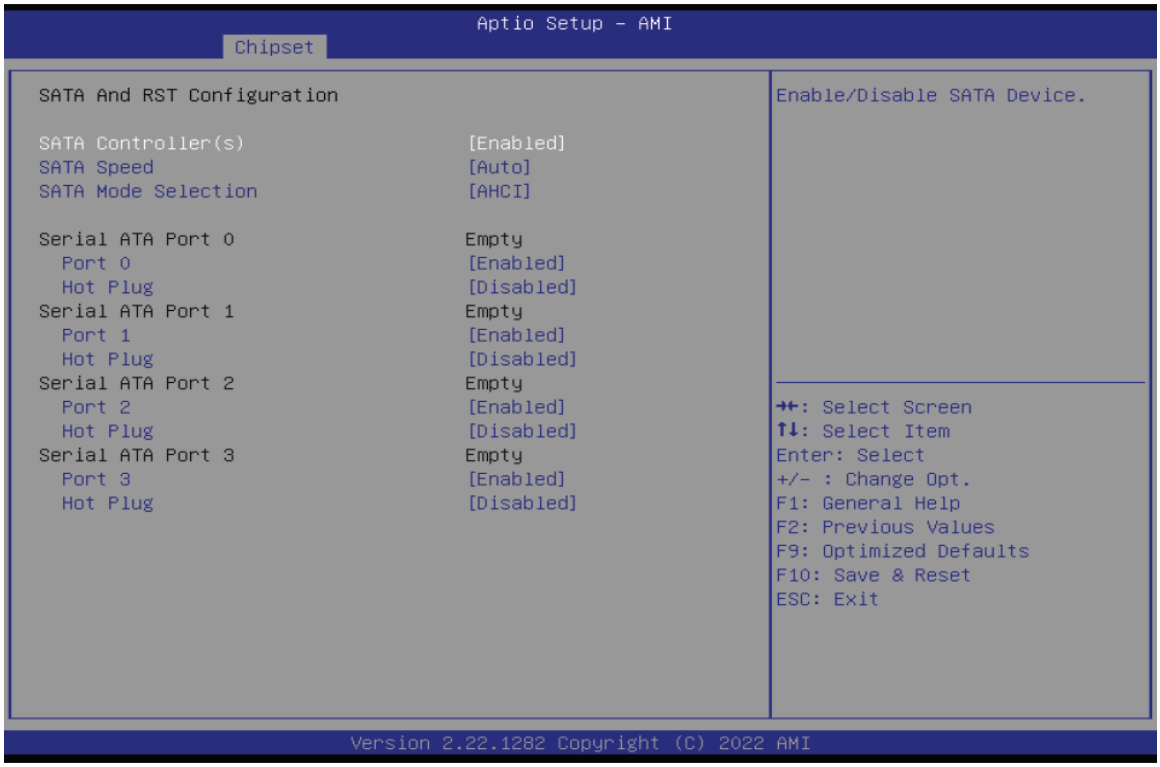


Select one of the PCI Express channels and press enter to configure the following settings.

PCI Express Root Port 9~12, 17~20 & Intel i225

Control the PCI Express Root Port.

5.3.2.2. SATA And RST Configuration



SATA Controller(s)

This field is used to enable or disable the Serial ATA controller.

SATA Speed

This field is used to select SATA speed generation limit: Auto, Gen1, Gen2 or Gen3.

SATA Mode Selection

The mode selection determines how the SATA controller(s) operates.
AHCI This option allows the Serial ATA controller(s) to use AHCI (Advanced Host Controller Interface).

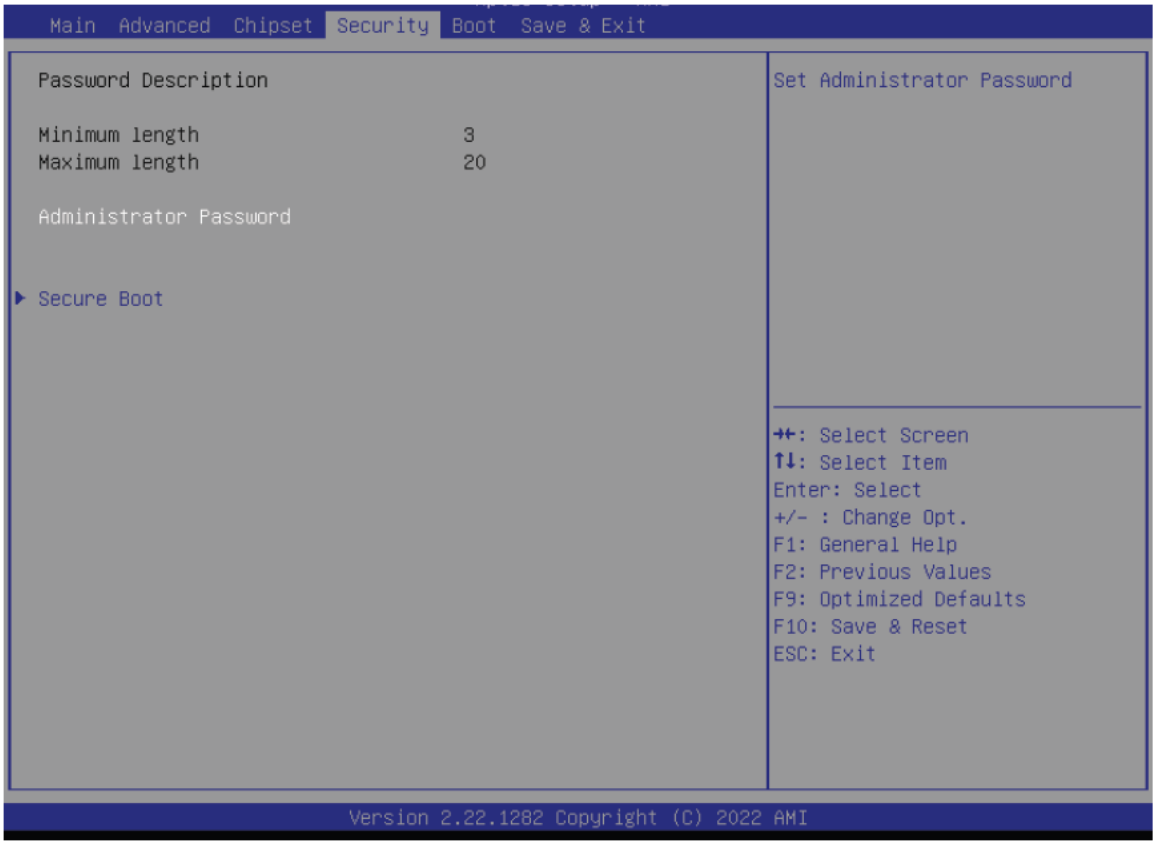
5.3.2.3. HD Audio Configuration

HD Audio

Control the detection of the HD Audio device.

- **Disabled** HDA will be unconditionally disabled.
- **Enabled** HDA will be unconditionally enabled.

5.4 Security



Administrator Password

Set the administrator password. To clear the password, input nothing and press enter when a

new password is asked. Administrator Password will be required when entering the BIOS.

User Password

Set the user password. To clear the password, input nothing and press enter when a new password is asked. User Password will be required when powering up the system.

Secure Boot

The Secure Boot store a database of certificates in the firmware and only allows the OSes with authorized signatures to boot on the system. To activate Secure Boot, please make sure that "Secure Boot" is "[Enabled]", Platform Key (PK) is enrolled, "System Mode" is "User", and CSM is disabled. After enabling/disabling Secure Boot, please save the configuration and restart the system. When configured and activated correctly, the Secure Boot status will be "Active".

Secure Boot Mode

Select the secure boot mode — Standard or Custom. When set to Custom, the following fields will be configurable for the user to manually modify the key database.

Restore Factory Keys

Force system to User Mode. Load OEM-defined factory defaults of keys and databases onto the Secure Boot. Press Enter and a prompt will show up for you to confirm.

Reset To Setup Mode

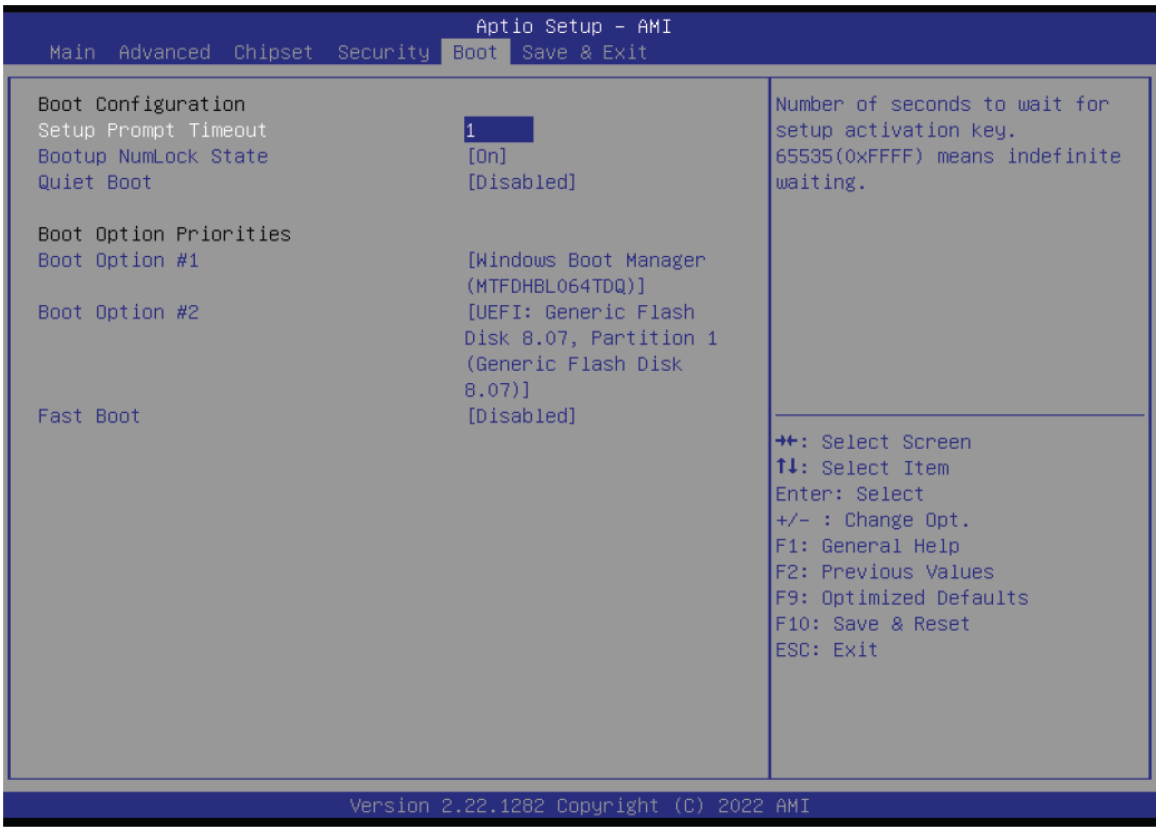
Clear the database from the NVRAM, including all the keys and signatures installed in the Key Management menu. Press Enter and a prompt will show up for you to confirm.

Key Management

Enables expert users to modify Secure Boot Policy variables

without full authentication.

5.5 Boot



Setup Prompt Timeout

Set the number of seconds to wait for the setup activation key. 65535 (0xFFFF) denotes indefi-nite waiting.

Bootup NumLock State

Select the keyboard NumLock state: On or Off.

Quiet Boot

This section is used to enable or disable quiet boot option.

Boot Option Priorities

Rearrange the system boot order of available boot devices.

Fast Boot

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.

Note:
If "Boot option filter" of "CSM Configuration" is set to "UEFI and Legacy" or "UEFI only", and "Quiet Boot" is set to enabled, "BGRT Logo" will show up for configura-tion. Refer to the Advanced > CSM Configuration submenu for more information.

5.6 Save & Exit

Save Changes and Reset

To save the changes, select this field and then press <Enter>. A dialog box will appear. Select Yes to reset the system after saving all changes made.

Discard Changes and Reset

To discard the changes, select this field and then press <Enter>. A dialog box will appear. Se-lect Yes to reset the system setup without saving any changes.

Restore Defaults

To restore and load the optimized default values, select this field and then press <Enter>. A dia-log box will appear. Select Yes to restore the default values of all the setup options.

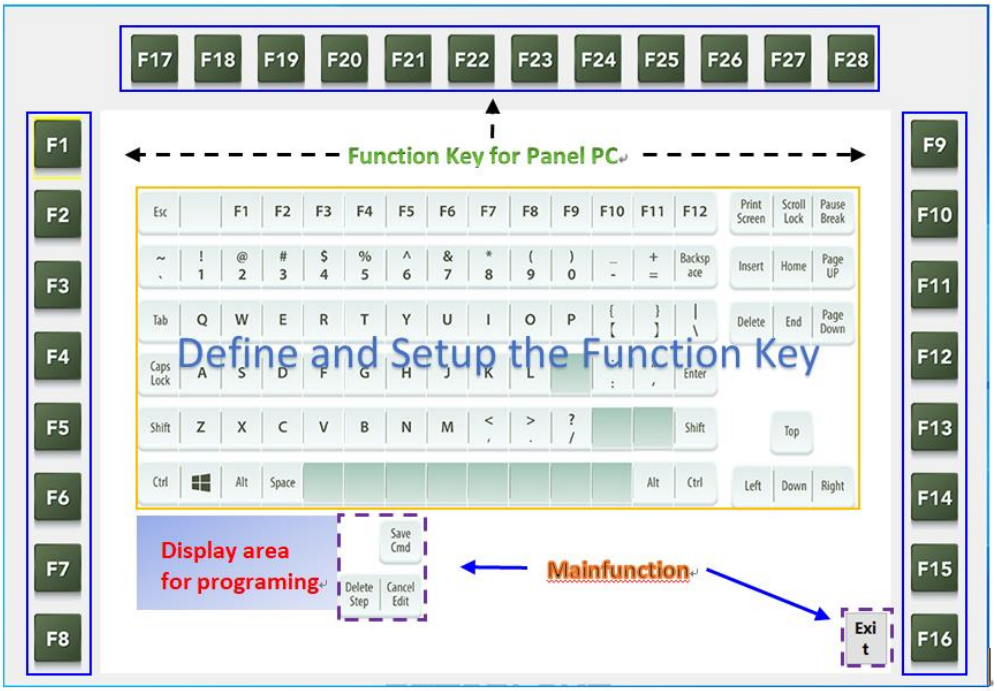
Boot Override

Move the cursor to an available boot device and press Enter, and then the system will immedi-ately boot from the selected boot device. The Boot Override function will only be effective for the current boot. The "Boot Option Priorities" configured in the Boot menu will not be changed.

- **Save Setting to file** Select this option to save BIOS configuration settings to a USB flash device.
- **Restore Setting from file** This field will appear only when a USB flash device is detected. Select this field to restore set-ting from the USB flash device.

Chapter 6: Programable Function Key Setup

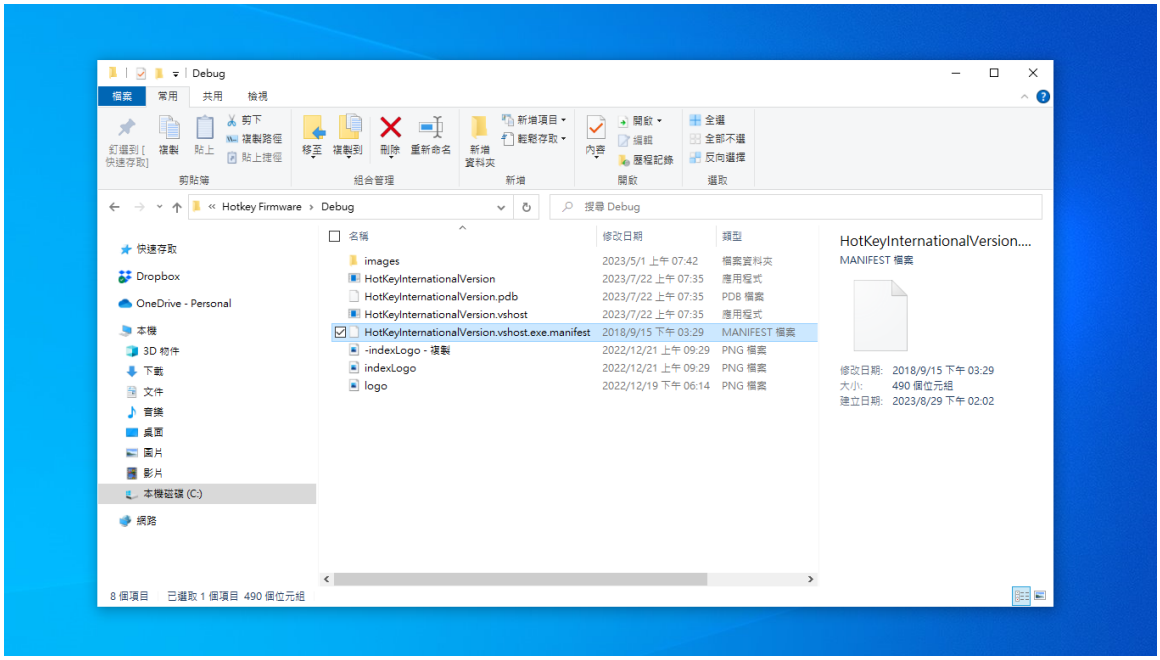
PreFace



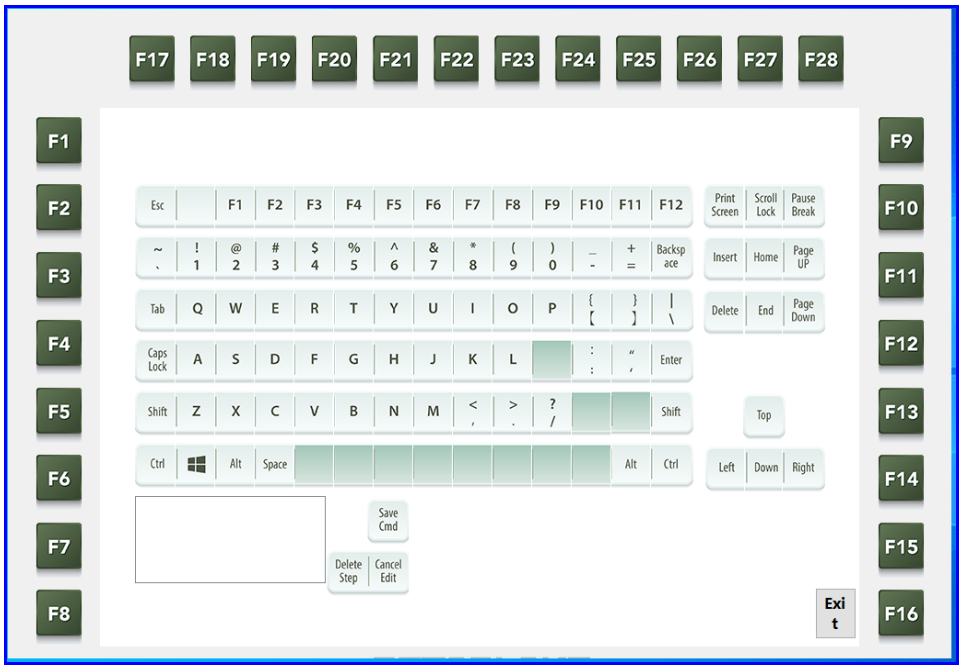
All operations within this document must be performed with the HotKey hardware connected in order to function properly.

6.1 Start Hot Key International Version

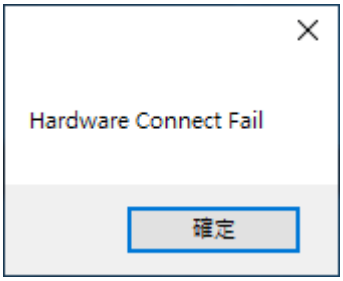
Click the Hot Key International Version.exe program and wait for it to finish initializing. Once the program interface appears, it means that the initialization is complete and you can proceed with the operations. If the hardware is not connected or cannot be connected properly, an error message "Hardware Connect Fail" will appear.



Click the Hot Key International Version.exe program and wait for it to finish initializing.



Once the program interface appears, it means that the initialization is complete and you can proceed with the operations.



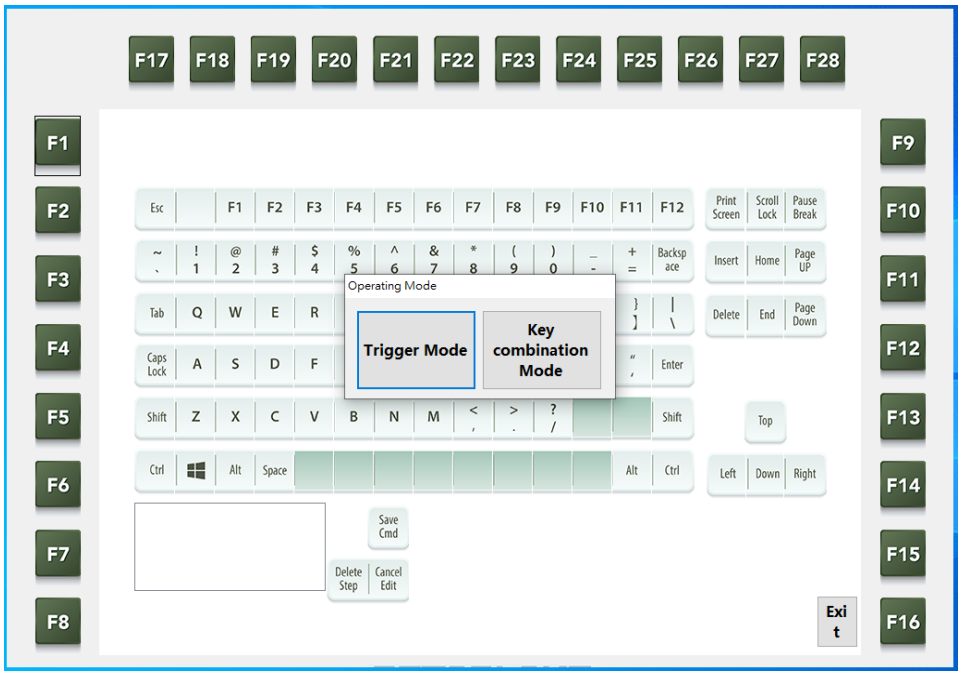
If the hardware is not connected or cannot be connected properly, an error message "Hardware Connect Fail" will appear.

6.2 Introduction to Hotkey Trigger Mode Operation

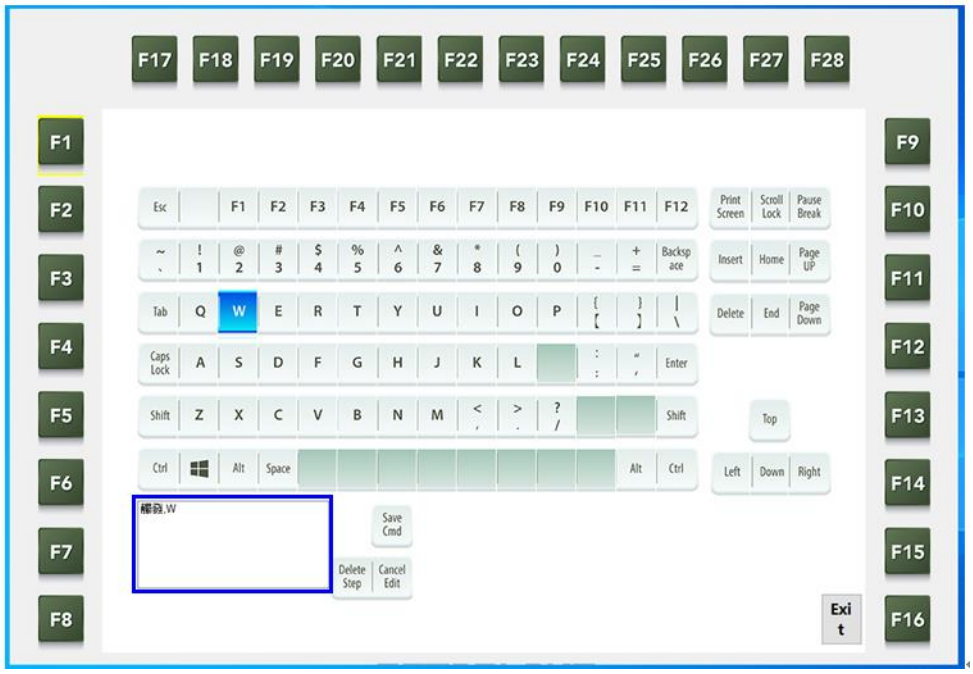
This chapter demonstrates the steps for setting up Trigger mode, including Save Cmd/Delete Step/Cancel Edit.

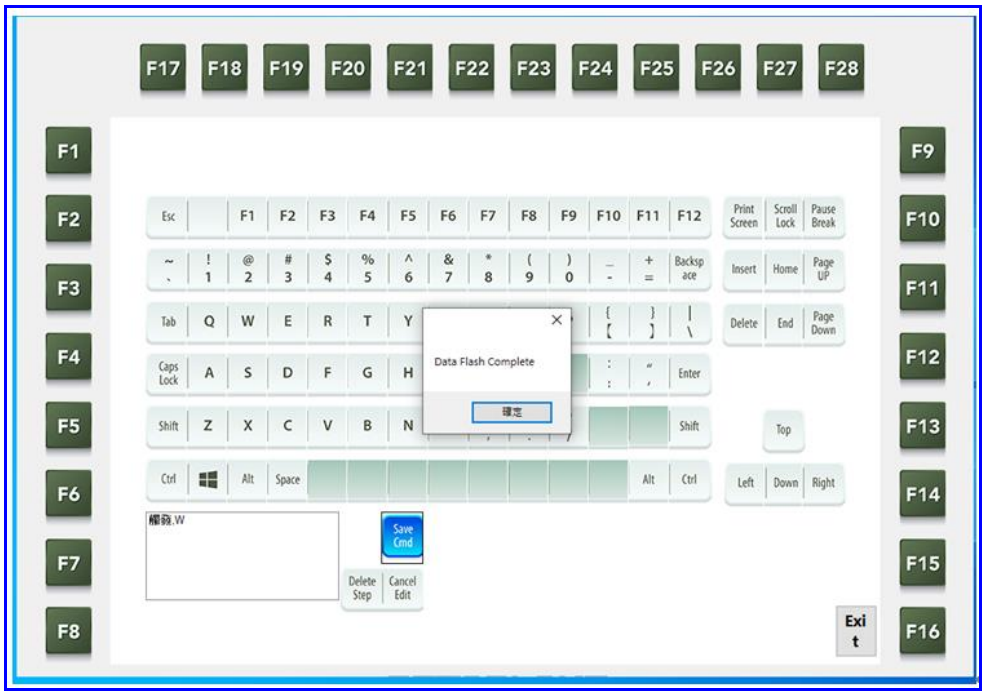
6.2.1 Hotkey Trigger Mode - Save Cmd

Clicking on the first command "F1" will bring up a window to select Trigger Mode and Key Combination Mode. Select Trigger Mode and then choose "W" after entering Trigger Mode. Press "Save Cmd" to write the command to the hardware.



Clicking on the first command "F1" will bring up a window to select Trigger Mode and Key Combination Mode. Select Trigger Mode

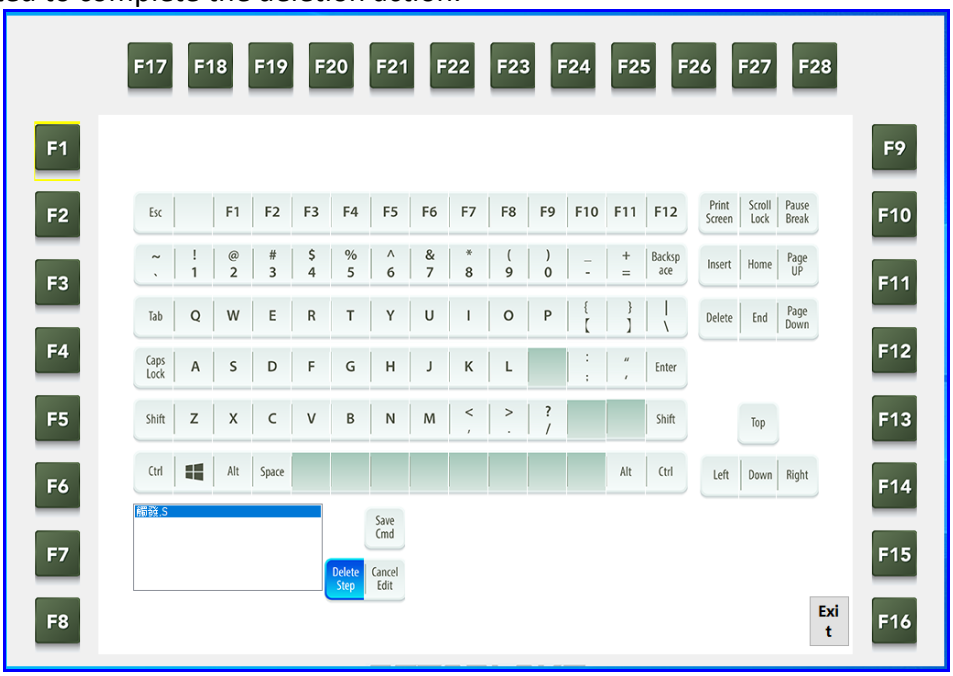




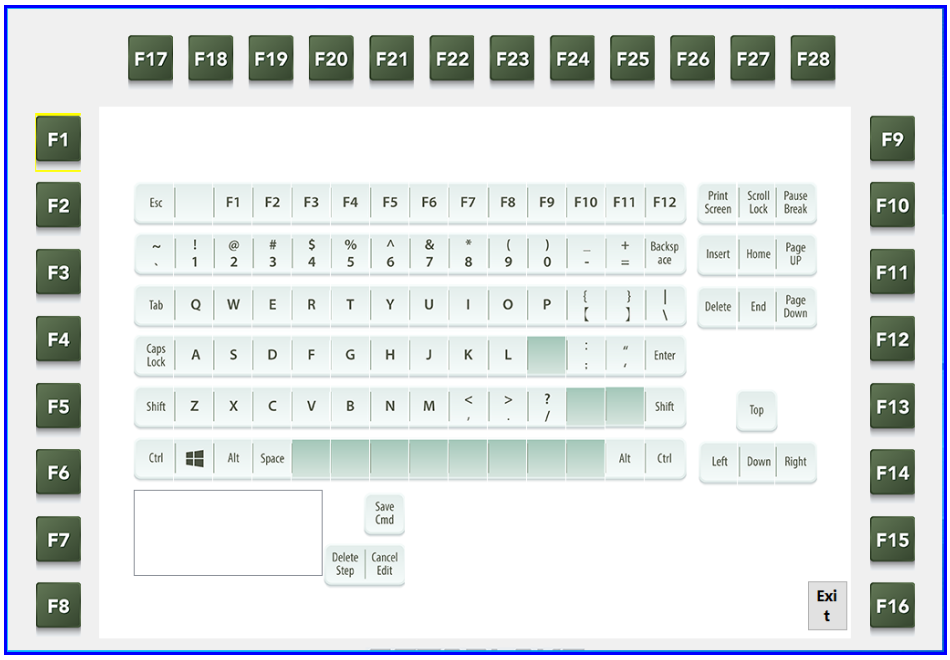
Select Trigger Mode and then choose "W" after entering Trigger Mode. Press "Save Cmd" to write the command to the hardware.

6.2.2 Hotkey Trigger Mode - Delete Step

Select the instruction to be deleted in the instruction display window, and then press "Delete Step". Confirm that the instruction in the instruction display window has been deleted to complete the deletion action.



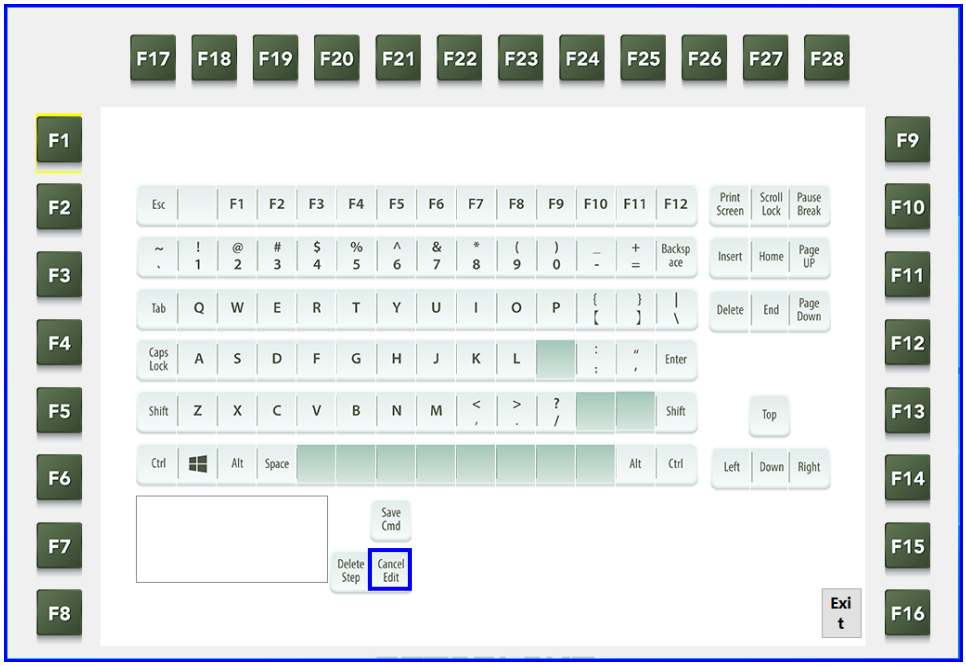
Select the instruction to be deleted in the instruction display window, and then press "Delete Step"



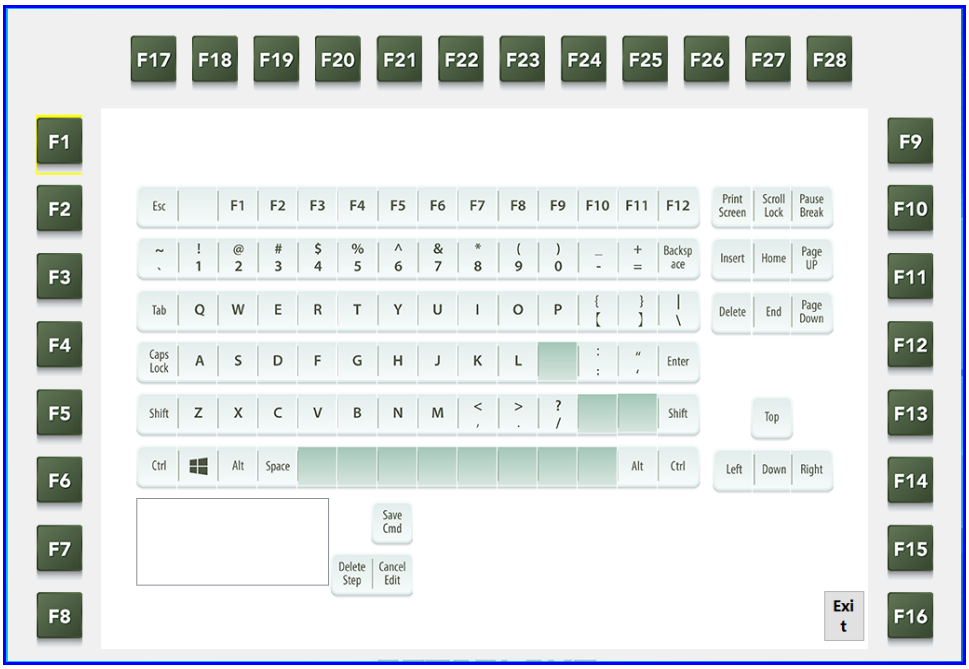
Confirm that the instruction in the instruction display window has been deleted to complete the deletion action.

6.2.3 Hotkey Trigger Mode – Cancel Edit

Click "Cancel Edit" and wait to return to the splash screen to complete the operation.



Click "Cancel Edit" and wait to return to the splash screen



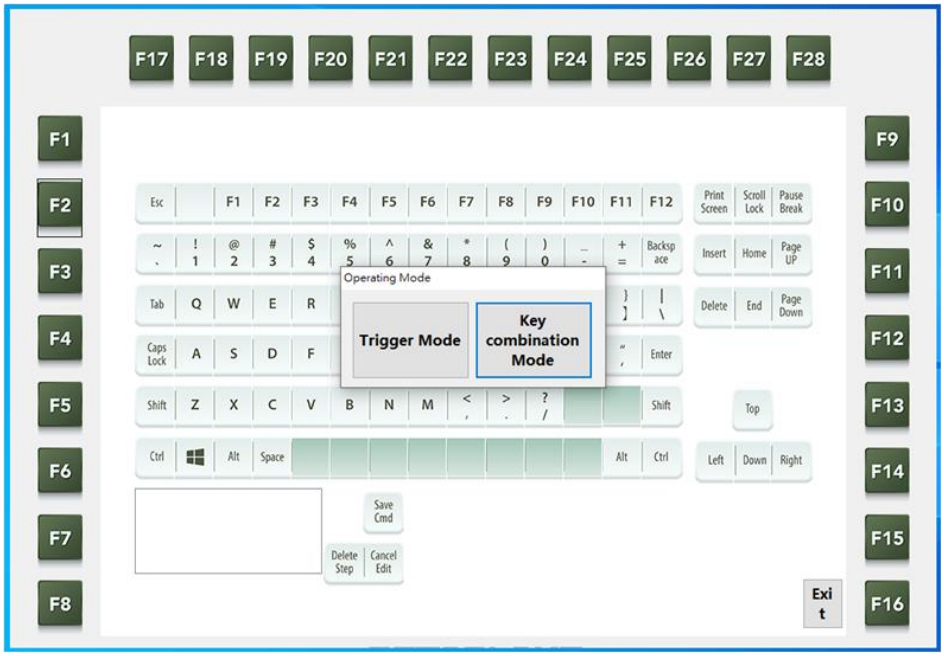
Returning to the splash screen signifies the completion of the operation.

6.3 Key combination Mode Introduction

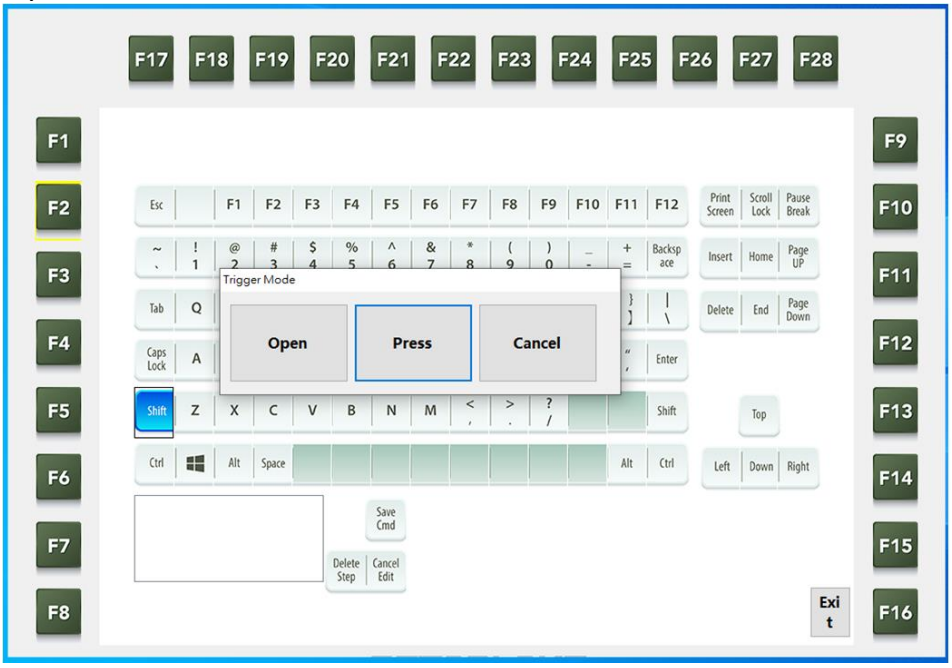
This chapter demonstrates the operation steps for setting up the Key Combination Mode, including Save Cmd/Delete Step/Cancel Edit.

6.3.1 HotKey Key combination Mod - Save Cmd

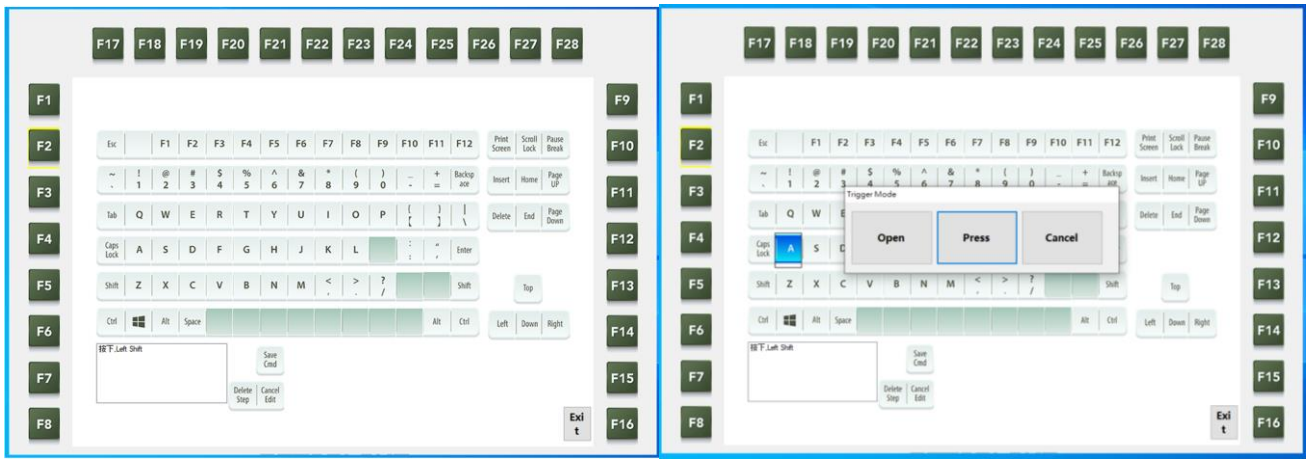
Clicking on the first command "F2" will bring up a window to choose between Trigger Mode and Key Combination Mode. Selecting Key Combination Mode will take you to a window where you can choose "Ctrl" on the left, which will bring up a window with three options: Open, Press, and Cancel. Select "Press" here, where Open indicates releasing the key, Press indicates pressing the key, and Cancel indicates cancelling the action. Once the configuration is complete, the instruction display window will show the configured command. Since the Key Combination Mode is designed to provide combination function, the action to be performed here is to simulate the "Select All" action. Therefore, you need to sequentially configure the "Ctrl" and "A" on the left to be in the "Press" state, followed by configuring the "Ctrl" and "A" on the left to be in the "Open" state, and then click on "Save Cmd" to write the command into the hardware.



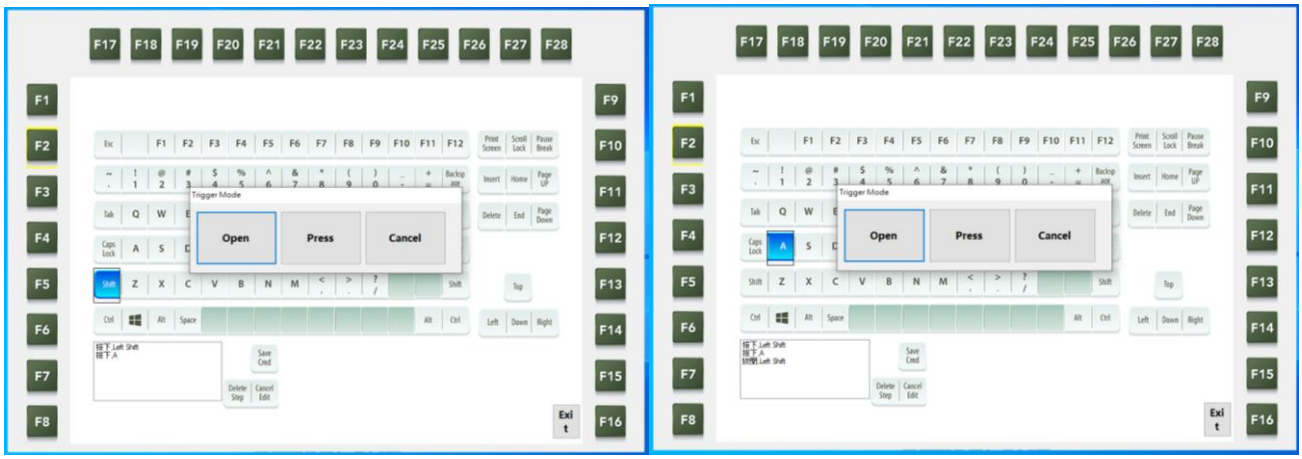
Clicking on the first command "F2" will bring up a window to choose between Trigger Mode and Key Combination Mode.

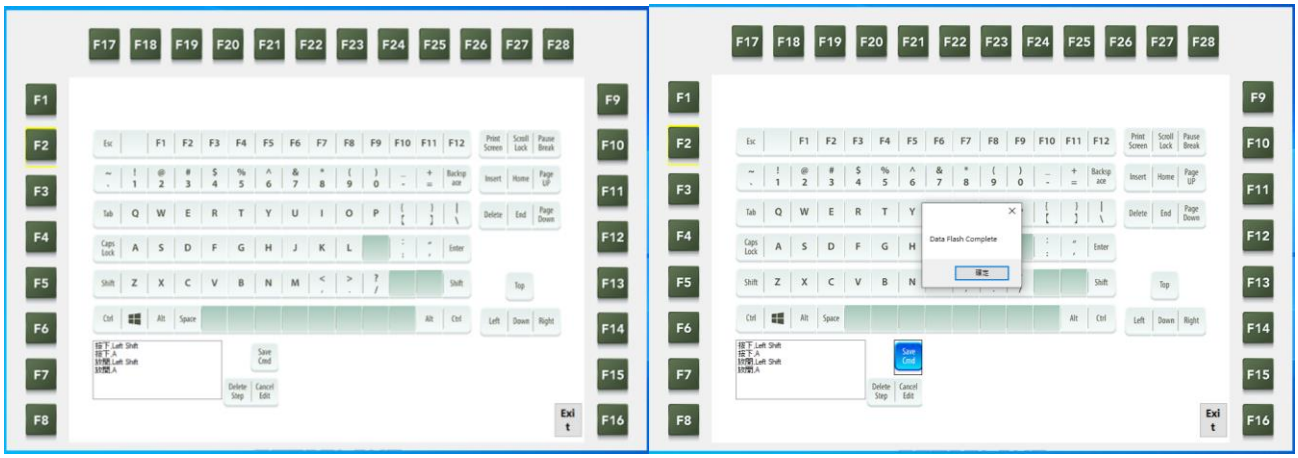


Choose "Shift" on the left, which will bring up a window with three options: Open, Press, and Cancel. Select "Press".



Once the configuration is complete, the instruction display window will show the configured command.

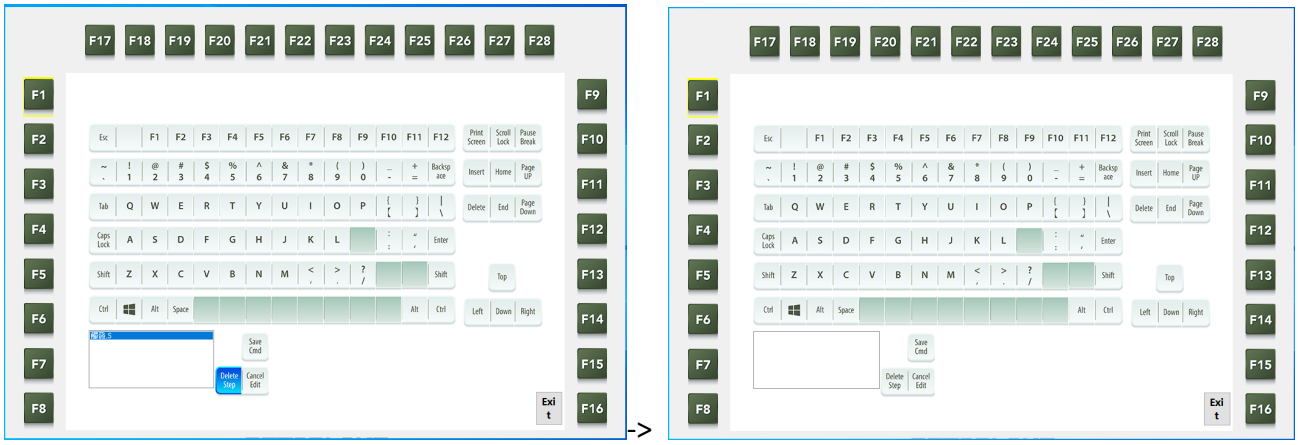




Sequentially configure the "Shift" and "A" on the left to be in the "Press" state, followed by configuring the "Shift" and "A" on the left to be in the "Open" state, and then click on "Save Cmd" to write the command into the hardware.

6.3.2 HotKey Key combination Mod - Delete Step

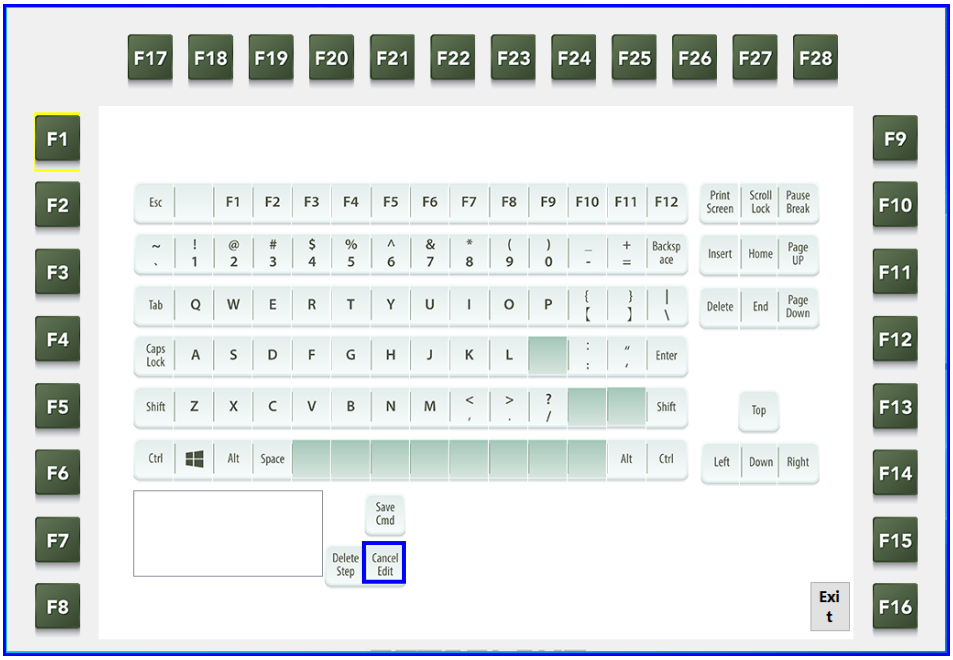
In the instruction display window, select the command to be deleted, and then click on "Delete Step". Confirm that the command has been deleted in the instruction display window to complete the deletion action.



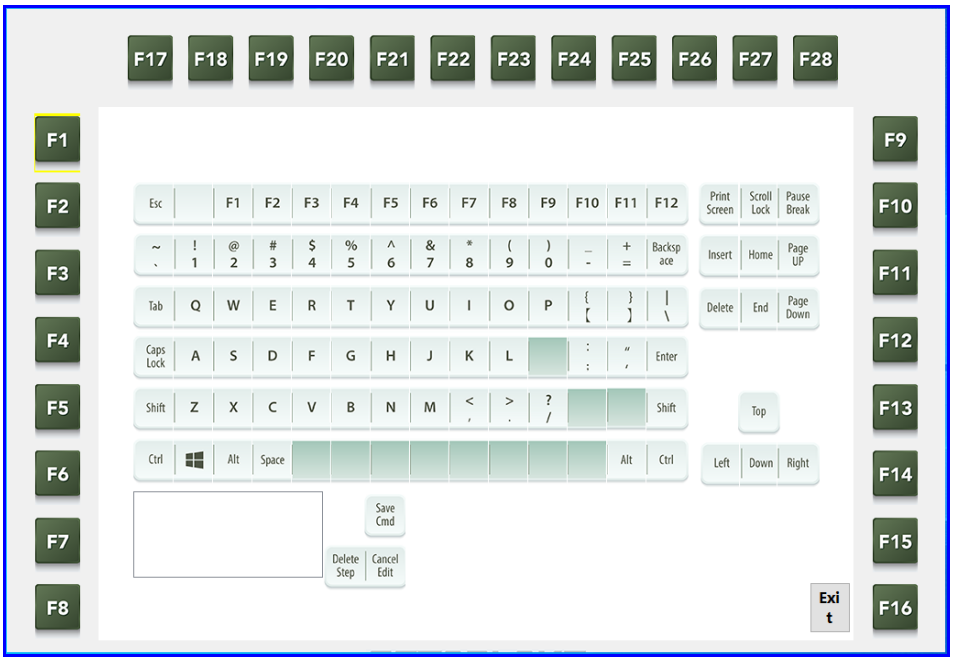
In the instruction display window, select the command to be deleted, and then click on "Delete Step".
Confirm that the command has been deleted in the instruction display window to complete the deletion action.

6.3.3 HotKey Trigger Mode – Cancel Edit

Click on "Cancel Edit" and wait until you return to the splash screen to complete the operation.

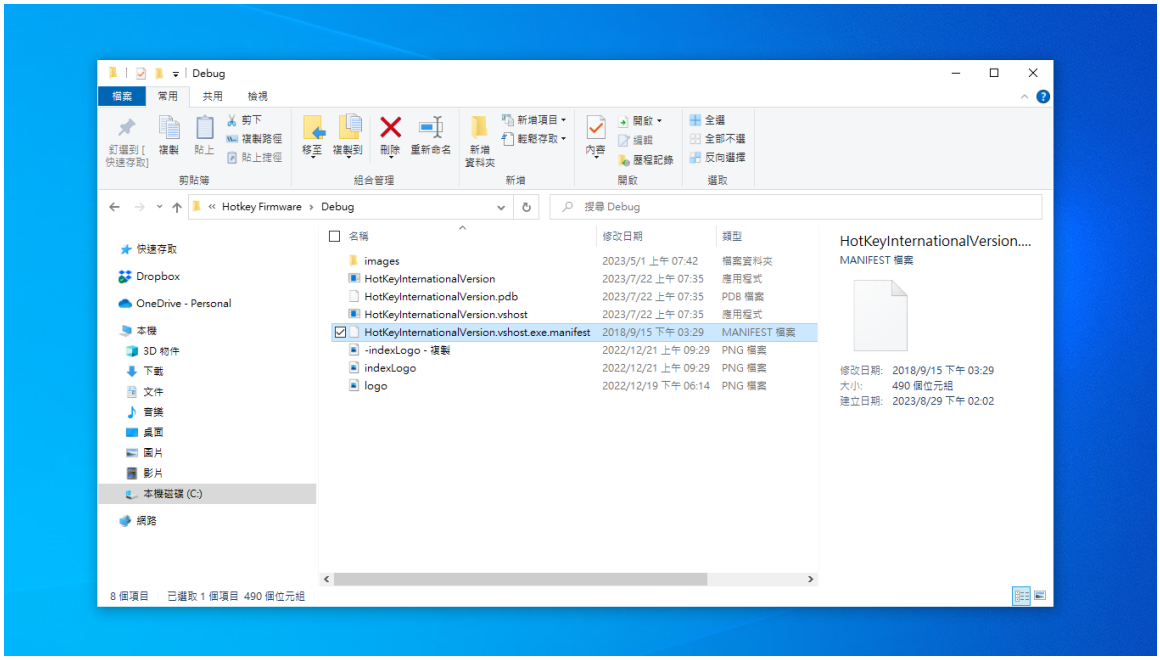


Click on "Cancel Edit" and wait until you return to the splash screen.



Returning to the splash screen signifies the completion of the operation.

Click "Exit" and wait to return to the Windowscreen



Note 1: This control program is only applicable to display settings with resolutions between 1024 x 768 and 1920 x 1080.

Note 2: This control program is only applicable under OS of Windows 10 and is not guaranteed to be used on other platforms..