# **BIOS Setup Guide**

## **Bios Setup**

### Notice:

The descriptions relating to BIOS setup in this Manual is for reference only since the BIOS version of the product might be upgraded. provides no guarantee that all the contents in this Manual are consistent with the information you acquired.

BIOS is a basic I/O control program saved in the Flash Memory. Bridging the motherboard and the operation system, BIOS is used for managing the setup of the related parameters between them.

When the computer is activated, the system is first controlled by the BIOS program. Firstly, a self-detection called POST is performed to check all hard devices and confirm the parameters of the synchronous hardware.

Once all detections are completed, BIOS will hand over the controlling to the operation system (OS). As BIOS serves as the only channel that connects the hardware and software, whether your computer can run stably and work in optimized state will hinge on how to properly set the parameters in BIOS. Therefore, the correct setup of BIOS plays a key role in stably running the system and optimizing its performance.

The CMOS Setup will save the set parameters in the built-in CMOS SRAM on the motherboard. When the power is shut off, the lithium battery on the motherboard will provide continuously power to CMOS SRAM.

#### The BIOS setup program will allow you to configure the following items:

- 1. peripheral devices
- 3. Password protection

## A. State of BIOS Setup

When the computer is started up, BIOS will run the self-detection (Post) program. This program includes series of diagnosis fixed in BIOS. When this program is executed, the following information will appear if any error is found:

Press [F1] to Run General help

Press [F2] to Load previous values and continue

To enter BIOS, you can press DEL to enter the BIOS interface if no error occurs. If the indicative information disappears before operating, you can shut down the computer and turn it on again, you can also press < Ctrl > + < Alt > + < Delete > simultaneously.

## **B.** Function Keys definitions

Hot Key	Description
↑	(Up key) Move to the previous item
$\downarrow$	(Down key) Move to the next item
<i>←</i>	(Left key) Move to the left item
$\rightarrow$	(Right key) Move to the right item
ESC	Exit the current interface
Page Up	Change the setup state, or add the values
Page Down	Change the setup state, or deduct the values
F1	Display the information of the current function Keys definitions.
F3	Load the optimized values
F4	Save the settings and exit the CMOS SETUP

#### C. Auxiliary information Main interface

When the system enters the main interface of Setup, the major selected contents will be displayed at the lower part of the interface with the change of the options.

When you set the value for each column, you can view the preset value of the column and the values that can be set if you press F2, for example, the BIOS default values or CMOS Setup values.

To exit the interface for auxiliary information, press [ESC].

#### D. Main menu

When the system enters the BIOS Setup menu, you can see the main menu on the upper part of the screen, as shown in Figure 1.

In this main menu, you can use the left and right direction keys to select the setup items.

Once the item is selected, the lower part of the computer screen will show the details of setting.

Core Version Compliancy Project Version System model System Manufacturer Serial Number SKU Number Build Date and Time Access Level Processor Information Name Type Speed TD	American Megatrends 5.25 UEFI 2.8; PI 1.7 013 Default string Default string Default string 02/13/2023 16:07:51	goo Ar tog Madr.
SKU Number Build Date and Time Access Level Processor Information Name Type Speed TD	Default string	1924
Name Type Speed TD	Administrator 908	
Total Memory EU-IC	AlderLake ULT 12th Gen Intel(R) Core(TM) i3-1220P 1500 MHz 0x906A4 R0 3192 MB 3200 MHz	++: Se fl: Se Enter: +/-: C F1: Ge F2: Pr F3: Op F4: Sa ESC: E
EC FW Version Version 2.3	00.15	0.M.7

Fig 1

#### 1) Main (standard CMOS setup)

This item is used for setting the date and time.

#### 2) Advanced (advanced BIOS setup)

This item is used for setting the advanced functions provided by BIOS, such as specifications of PCIe facilities, HDD,Network, etc.

3) Security (set the administrator/user password)

4) Boot (startup configuration characteristics)

#### 5) Save & Exit (option of exit)

This item includes load optimal defaults / load failsafe defaults value / discard changes / discard changes and exit.

## Main (Standard CMOS Setup)

Main Advanced Secur	Aptio Setup – AMI ity Boot Save & Exit
BIOS Information BIOS Vendor Core Version Compliancy Project Version System model System Manufacturer	American Megatrends 5.25 UEFI 2.8; PI 1.7 013 Default string
Serial Number SKU Number Build Date and Time Access Level	Default string Default string 02/13/2023 16:07:51 Administrator 308
Processor Information Name Type Speed ID Stepping Total Memory Memory Frequency	AlderLake ULT 12th Gen Intel(R) Core(TM) i3-1220P 1500 MHz 0×906A4 R0 8192 MB 3200 MHz +/-: C F1: Ge F2: Pr F3: Op F4: Sa ESC: E
EC FW Version	00.15 Version 2.22.1284 Copyright (C) 2023 AMI

#### 1) System time (hh:mm:ss)

Use this item to set the time for the computer, with the format as "HH / MM / SS".

#### 2) System date (mm:dd:yy)

Use this item to set the date for the computer, with the format as "MM / DD / YY".

## Advanced (Advanced BIOS Setup)

Aptio Setup – AMI Main <mark>Advanced</mark> Security Boot Save & Exit	
<ul> <li>SATA Configuration</li> <li>Trusted Computing</li> <li>Network Stack Configuration</li> <li>NVMe Configuration</li> <li>Realtek PCIe GBE Family Controller (MAC:54:EF:92:5A:31:2C)</li> </ul>	SATA Device Options Settings
	<pre>++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
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## SATA Configuration

Advanced	Aptio Setup – AMI		
SATA Configuration SATA Controller(s) SATA Mode Selection SATA Test Mode Aggressive LPM Support Serial ATA Port 0 Software Preserve Port 0 Hot Plug Configured as eSATA External Spin Up Device SATA Device Type Topology SATA Port 0 DevSlp DITO Configuration DITO Value DM Value Serial ATA Port 1 Software Preserve Port 1 Hot Plug Configured as eSATA	[Enabled] [AHCI] [Disabled] [Enabled] Empty Unknown [Disabled]	<ul> <li>Enable/Disable SATA Device.</li> <li>**: Select Screen</li> <li>**: Select Item</li> <li>Enter: Select</li> <li>*/-: Change Opt.</li> <li>F1: General Help</li> <li>F2: Previous Values</li> <li>F3: Optimized Defaults</li> <li>F4: Save &amp; Exit</li> <li>ESC: Exit</li> </ul>	
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Options		Description	
SATA Configuration	SATA Configuration		
SATA Controller(S)	Enable/Disable S	Enable/Disable SATA Device.	
SATA Mode Selection	Determines how	Determines how SATA controller(s) operate.	
SATA Test Mode	Test Mode Enab	Test Mode Enable/Disable (Loop Back).	

# Aggressive LPM Support Enable PCH to aggressively enter link power state.

## **Trusted Computing**

TPM 2.0 Device Found		Enables or Disables BIOS
Firmware Version:	600.18	support for security device.
Vendor:	INTC	0.S. will not show Security Device. TCG EFI protocol and
Security Device Support	[Enable]	INT1A interface will not be
Active PCR banks	SHA256	available.
Available PCR banks	SHA256,SHA384,SM3	
SHA256 PCR Bank	[Enabled]	
SHA384 PCR Bank	[Disabled]	
SM3_256 PCR Bank	[Disabled]	
Pending operation	[None]	
Platform Hierarchy	[Enabled]	↔: Select Screen
Storage Hierarchy	[Enabled]	↑↓: Select Item
Endorsement Hierarchy	[Enabled]	Enter: Select
Physical Presence Spec Version TPM 2.0 InterfaceType	[1.3] [CRB]	+/-: Change Opt. F1: General Help
Device Select	[Auto]	F2: Previous Values
Disable Block Sid	[Disabled]	F3: Optimized Defaults
		F4: Save & Exit
		ESC: Exit

Options	Description	
Trusted Computing		
TPM20 Device Found Firmware Version: Vendor:	It shows the information of TPM device.	
Security Device Support	Enables or Disables BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available.	
SHA256 PCR Bank	Enable or Disable SHA256 PCR Bank	

SHA384 PCR Bank	Enable or Disable SHA384 PCR Bank	
SM3_256 PCR Bank	Enable or Disable SM3_256 PCR Bank	
Pending operation	Schedule an Operation for the Security	
	Device. NOTE: Your Computer will reboot	
	during restart in order to change State of	
	Security Device.	
Platform Hierarchy	Enable or Disable Platform Hierarchy	
Storage Hierarchy	Enable or Disable Storage Hierarchy	
Endorsement Hierarchy	Enable or Disable Endorsement Hierarchy	
Physical Presence Spec	Select to Tell O.S. to support PPI Spec	
Version	Version 1.2 or 1.3. Note some HCK tests	
	might not support 1.3.	
Device Select	TPM 1.2 will restrict support to TPM1.2	
	devices, TPM 2.0 will restrict support to TPM	
	2.0 devices, Auto will support both with the	
	default set to TPM 2.0 devices if not found,	
	TPM 1.2 devices will be enumerated	
Disable Block Sid	Override to allow SID authentication in TCG	
	Storage device	

## Network Stack Configuration

Advanced	Aptio Setup – AMI	
UEFI PXE	[Disabled]	Enable/Disable UEFI Network Stack ++: Select Screen 1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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You can enable or disable IPV4 PXE and IPV6 PXE Boot function.

## NVMe configuration

Advanced	Aptio Setup — AMI	
Seg:Bus:Dev:Func Model Number Total Size Vendor ID Device ID Namespace: 1	00:03:00:00 FORESEE XP1000F001T 1024.2 GB 1D97 5216 Size: 1024.2 GB	Select either Short or Extended Self Test. Short option will take couple of minutes and extended option will take several minutes to complete.
Device Self Test: Self Test Option Self Test Action Run Device Self Test	[Short] [Controller Only Test]	
Short Device Selftest Result Extended Device Selftest Result		<pre>++: Select Screen 1↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
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Display NVME SSD storage device information

## Realtek PCIe GBE Family Controller (MAC:XX-XX-XX-XX-XX)

Advanced	Aptio Setup – AMI	
Driver Information Driver Name: Driver Version: Driver Released Date: Device Information Device Name: PCI Slot: MAC Address: Patent Information This product is covered by one or more of the following patents: US6,570,884, US6,115,776, and US6,327,625	Realtek UEFI UNDI Driver 2.058 2022/05/03 Realtek PCIe GBE Family Controller 02:00:00 54:EF:92:5A:31:2C	<pre> ++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
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Show Realtek ethernet controller information

Main Advanced Security Boot Sa	Aptio Setup - AMI ve & Exit	
<ul> <li>Password Description</li> <li>If ONLY the Administrator's password then this only limits access to Set only asked for when entering Setup.</li> <li>If ONLY the User's password is set, is a power on password and must be boot or enter Setup. In Setup the L have Administrator rights.</li> <li>The password length must be in the following range: Minimum length Maximum length</li> <li>Administrator Password User Password</li> <li>Secure Boot</li> </ul>	up and is then this entered to	Set Administrator Password ++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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If this function is selected, the following information will appear:

Enter New Password xxxxxxx

Then enter a password of no more than 3-20 characters and press <Enter>. BIOS will require to enter the password again.

Once you enter it again, BIOS will save the set password. Once the password item is enabled, you will be required to enter the password every time before the system entering to the setup program of BIOS. The user can set this item through the Security Option in advanced BIOS properties. If the Security Option is set as System, the password will be required to be entered before both the system guides and entering to the setup program of BIOS. If it is set as Setup, the password will be required to be entered only before the system entering to the setup program of BIOS.

To delete the password, press <Enter> in the popped-up window that requires to enter the password. Then information for confirmation will appear on the screen to allow you decide whether the password will be disabled. Once the password is disabled, you can enter the setup program directly without password when the system is restarted.

## **Secure Boot**

Security	Aptio Setup – AMI	
System Mode	Setup	Secure Boot feature is Active if Secure Boot is Enabled,
Secure Boot	[Enabled] Not Active	Platform Key(PK) is enrolled and the System is in User mode. The mode change requires
Secure Boot Mode ▶ Restore Factory Keys ▶ Reset To Setup Mode	[Standard]	platform reset
▶ Key Management		
		+/-: Change Opt. F1: General Help F2: Previous Values
		F3: Optimized Defaults F4: Save & Exit ESC: Exit
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Options	Description	
Secure Boot		
Secure Boot	Secure Boot feature is Active if Secure Boot is	
	Enabled, Platform Key(PK) is enrolled and the	
	System is in User mode. The mode change	
	requires platform reset	
Scure Boot Mode	Secure Boot mode options:	
	Standard or Custom.	
	In Custom mode, Secure Boot Policy	

variables can be configured by a physically
present user without full anthentication

## Boot

Boot Configuration		Enables or disables Quiet Boot
Quiet Boot	[Enabled]	option
Boot Option Priorities		
Boot Option #1	[Windows Boot Manager (FORESEE XP1000F001T)]	
Boot Option #2	[UEFI: SMI USB DISK 1100, Partition 1 (SMI USB DISK 1100)]	
		<pre>++: Select Screen 1↓: Select Item</pre>
		Enter: Select
		+/-: Change Opt. F1: General Help
		F2: Previous Values
		F3: Optimized Defaults F4: Save & Exit ESC: Exit
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Options	Description
Boot Configuration	
Quiet Boot	If this item is set as Enabled, the system can be started within
	five seconds and some detection items will be ignored. The
	options are [Disabled] and [Enabled].
BOOT Option Priorities	
Boot Option #1	The first boot device. If BIOS doesn't detect the first boot device, it will check the second boot device.
Boot Option #2	The second boot device.

## Save & Exit

Aptio Setup – AMI Main Advanced Security Boot Save & Exit	
Save Options Save Changes and Exit Discard Changes and Exit Save Changes and Reset Discard Changes and Reset Save Changes Discard Changes Default Options Restore Defaults	Exit system setup after saving the changes.
Save as User Defaults Restore User Defaults Boot Override ▶ Windows Recovery	<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>

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Options	Description	
Save Options		
Save Changes and Reset	Save all changes and exit	
Discard Changes and Reset	Give up the settings and exit.	
Restore Defaults	Recover it to default.	
Boot Override	Whole Boot devices	
Windows Recovery	Exit system setup after saving the changes.	