GIGABYTE

Powerfully Compact

BRIX Ultra Compact PC Kit BIOS Setting Guide

Schnellstartanleitung / Guide de démarrage rapide / Руководство по быстрой сборке Przewodnik użytkownika / Hızlı Başlangıç Kılavuzu

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3

BIOS Setup

BIOS (Basic Input and Output System) is a UEFI interface that allows you to setup and configure your system for optimum use. Using your mouse and keyboard, users can change BIOS settings, monitor CPU temperature, select the boot device priority and view system information such as the CPU name, DRAM capacity, and the BIOS version.

To access the BIOS setup program, press the **<F2>** key during the POST (Power-On Self-Test) when the power is turned on.

Move the selection bar to select an item
Move the selection bar to select the screen
Execute command or enter the submenu
Main Menu: Exit the BIOS Setup program
Submenus: Exit current submenu
Increase the numeric value or make changes
Decrease the numeric value or make changes
General Help
Restore the previous BIOS settings for the current submenus
Load the Optimized BIOS default settings for the current submenu
Save all the changes and exit the BIOS Setup program

Main

This setup page includes all the items in standard compatible BIOS

Advanced

This setup page includes all the items of BRIX enhanced features.

Chipset

PCH (Platform Controller Hub) additional features configuration.

Boot

This setup page provides items for configuration of boot sequence.

Security

Change, set or disable supervisor and user password. Configuration supervisor password allows you to restrict access to the system and BIOS Setup.

A supervisor password allows you to make changes in BIOS Setup.

A user password only allows you to view the BIOS settings but not to make changes.

Save & Exit

Save all the changes made in the BIOS Setup program to and exit. (Pressing **<F10>** can also carry out this task.) Abandon all changes and the previous settings remain in effect. Pressing **<Y>** to the confirmation message will exit BIOS Setup. (Pressing **<Esc>** can also carry out this task.)



[•] BIOS flashing is potentially risky, if you do not encounter problems of using the current BIOS version, it is recommended that you don't flash the BIOS. To flash the BIOS, do it with caution. Inadequate BIOS flashing may result in system malfunction.

• It is recommended that you not alter the default settings (unless you need to) to prevent system instability or other unexpected results. Inadequately altering the settings may result in system's failure to boot. If this occurs, try to clear the CMOS values and reset the board to default values.

The Main Menu

Once you enter the BIOS Setup program, the Main Menu (as shown below) appears on the screen. Use arrow keys to move among the items and press **<Enter>** to accept or enter other sub-menu.

Main Menu Help

The on-screen description of a highlighted setup option is displayed on the bottom line of the Main Menu.

Submenu Help

While in a submenu, press **<F1>** to display a help screen (General Help) of function keys available for the menu. Press **<ESC>** to exit the help screen. Help for each item is in the Item Help block on the right side of the submenu.

Product Name M4HH87P-00 BIDS: Version F4 Build Date and Time 03/10/2014 10:30:01 LAN MAC Address 00-00-00-00-00-00 Memory Information Size Size 4096 MB (DDR8) Frequency 1600 Mh2	BIOS Information		Set the Date. Use Tab to switch between Date elements.
BIOS Version P4 Build Date and Time 03/10/2014 10:30:01 LAN MAC Address 00-00-00-00-00-00 Memory Information 4096 HB (DDR3) Size 4096 HB (DDR3) Frequency 1600 Hhz WE FW Version 9.0.20.1447 System Date [Hed 03/26/2014] System Time [10:23:45] **: Splect Spreen F1: General Help F2: Previous Values F3: Optimized Defaults	Product Name	M4HM87P-00	Switch between bate elements.
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F3: Optimized Defaults F4: Save & Exit			
F4: Save & Exit			
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BIOS Information

Product Name

Displays product name.

BIOS Version

Displays version of the BIOS.

Build Data and Time

Displays the date and time when the BIOS setup utility was created.

LAN MAC Address

Displays the MAC address information.

Memory Information

Size

Determines how much total memory is present during the POST.

Memory Frequency

Displays the memory frequency information.

ME FW Version

Displays the ME firmware version.

System Date

Set the date following the weekly-month-day-year format.

System Time

Set the system time following the hour-minute-second format.



• If you do not find the settings you want in the Main Menu or a submenu, press <Ctrl> + <F1> to access more advanced options.

• When the system is not stable as usual, select the Restore Defaults item to set your system to its defaults.

• The BIOS Setup menus described in this chapter are for reference only and may differ by BIOS version.

Advanced Menu

The Advanced menu display submenu options for configuring the function of various hardware components. Select a submenu item, then press **<Enter>** to access the related submenu screen.

 PPU Donfiguration SATA Configuration H/H Monitor Intel(R) Rapid Start Technology Intel(R) Smart Connect Technology Intel(R) Anti-Theft Technology Configuration 	CPU Configuration Parameters
	++: Select Spreen H+/Bliph: Select Item Enter/Dbl Click: Select +/-: Obange Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Evit ESG/Right Click: Exit

CPU Configuration

Configures the CPU features in this entry.

SATA Configuration

Configures the SATA settings in this entry.

H/W Monitor

Displays a real-time record of the CPU / system temperature and fan speed.

Intel Rapid Start Technology

Enables BRIX to get up and running faster from the deepest sleep, saving time and power consumption.

Intel Smart Connect Technology

Allows BRIX to automatically update programs while system suspended.

Intel Anti-Theft Technology Configuration

Makes BRIX useless to thieves with immediate shutdown.

Your CPU features / instructions are displayed and can be individually enabled / disabled in the CPU features list showed below.

		CPU Configuration
utilize the additional hardware capabilities provide	9 20683	Intel(R) Care(TM) 17-4770R CPU 0 3
anderpool Technology	40551	CPU Signature
and have rectine 483	P	Microcode Patch
	3600 MHz	CPU Speed
	4	Processor Cores
	Supported	Intel HT Technology
	Supported	Intel VT-x Technology
	Not Supported	Intel SMX Technology
	Supported	64-bit
	Not Present	Li Data Cache
Select Spreen	32 kB x 4	L1 Code Cache
lick: Select Tiem	256 KB x 4	L2 Cache
r∕Obi Olick: Selec≁ Cheoge Opt.	6144 KB	L3 Cache
General Help		Intel Virtualization Technology
Previous Values		
optimized Defaults		
Save & Exit		
Right Click: Exit		
	[Enabled]	
Pri Úp Sa	(Enabled) [Enabled] [Enabled] [Enabled]	Untel Virtualization Technology EIST Turbo Mode CPU C3 Report DPU C6 report CFG lock

CPU Configuration

CPU Model Name

Displays the processor type information.

CPU Signature

Displays the processor ID information.

Microcode Patch

Displays the information of the processor microcode patch.

CPU Speed

Displays the information of the processor speed.

Processor Cores

Displays the information of the processor core.

Intel HT Technology

Displays Intel Hyper Threading Technology function support information.

Intel VT-x Technology

Displays Intel Virtualization Technology function support information.

Intel SMX Technology

Displays Intel Safer Mode Extensions Technology function support information.

■64-bit

Displays the supported information of installed CPU.

L1 Data Cache

Displays the information of L1 Data Cache.

L1 Code Cache

Displays the information of L1 Code Cache.

L2 Cache

Displays the information of L2 Cache per Core.

L3 Cache

Displays the information of total L3 Cache per socket.

Intel Virtualization Technology (Default: Enabled)

Select whether to enable the Intel Virtualization Technology function. Intel VT allows a single platform to run multiple systems in independent partitions. Option available: Enabled / Disabled.

EIST (Default: Enabled)

EIST (Enhanced Intel SpeedStep Technology) allows the system to dynamically adjust processor voltage and core frequency, which can result in decreased average power consumption and decreased average heat production. Option available: Enabled / Disabled.

Turbo Mode (Default: Enabled)

Turbo Mode (Intel Turbo Boost Technology) automatically allows processor cores to run faster than the rated operating frequency if they're operating below power, current, and temperature specification limits. Option available: Enabled / Disabled.

• CPU C3 Report (Default: Enabled) Allows CPU enter C3 state.

Option available: Enabled / Disabled.

• CPU C6 Report (Default: Enabled) Allows CPU enter C6 state. Option available: Enabled / Disabled.

■ CFG lock (Default: Enabled)

Locks cuurent c state until the next reset occurred. Option available: Enabled / Disabled. Let you select the on chip SATA type.

	(AHCI)	Determines how SATA controller(s) operate.
fA Fort iATA	Enoty Enoty	Controlater vs/ operater.
		<pre>++: Select Screen 14/Slick: Select Item Enter/Obl Click: Select +/-: Change Opt. Pl: General Help F2: Previous Values F3: Optimized Defaulte F4: Save & Exit ESC/Right Click: Exit</pre>

SATA Mode Selection (Default: AHCI)

SATA controller enable its AHCI functionality. The RAID function is disabled and cannot be access the RAID setup utility at boot time.

SATA Port

Displays the hard drive information connected to your SATA port.

∎m-SATA

Displays the hard drive information connected to your m-SATA slot.

H/W Monitor

Enter to view the Hardware Monitor screen which displays a real-time record of the CPU / system temperature and fan speed.

Health Status		CPU FAN Fail Detect
U FAN Fall Detect PU SMART FAN Control	(Ensoled) (Ensbled)	
istem temperature 10 temperature 10 Fan Speed	: +46 t : +64 t : 1030 RPH	
		<pre>++: Select Spreen [1/plip: Select Timm Enter/Obl Click: Select +/-: Obange Opt, Fl: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Evit ESC/Right Click: Evit</pre>

- CPU Fan Fail Detect (Default: Enabled) Enable CPU fan stop warming function. Option available: Enabled / Disabled.
- CPU SMART FAN Control (Default: Enabled) Enable CPU SMART FAN function. Option available: Enabled / Disabled.
- System Temperature Displays current system temperature.
- CPU Temperature Displays current CPU temperature.
- CPU Fan Speed

Displays current CPU fan speed.

Intel Rapid Start Technology (Default: Disabled)

Enable / Disable the Intel Rapid Start Technology function. The Intel Rapid Start Technology (Intel RSTe) enables BRIX to get up and running faster from even the deepest sleep, saving time and power consumption. Option available: Enabled / Disabled.

ntel(R) Rapid Stert Technology	(Disabled)	Enable or disable Intel(R) Rapid Start Technology.
		++: Select Screen 14/Dick: Select Ttem Enter/Obi Olick: Select +/-: Change Opt Fi: General Help F2: Previous Values F3: Oprevious Values F3: Save & Evit F4: Save & Evit ESC/Right Click: Exit



- Entry on S3 RTC Wake (Default: Enabled) Enable / Disable entry on S3 RTC wake function. Option available: Enabled / Disabled.
- Entry After (Default: 10 minutes)
 If enabled, will allow you to set a timer to wake the computer at a particular interval.
 Option available: 10 minutes.
- Active Page Threshold Support (Default: Disabled)
 If enabled, the system will support RST with small partition.
 Option available: Enabled / Disabled.
- Hybrid Hard Disk Support (Default: Disabled) Enables Intel RST to support the latest solid state hybrid drives. Option available: Enabled / Disabled.
- RapidStart Display Save / Restore (Default: Disabled)
 BIOS POST screen will be displayed after Intel RST resume.
 Option available: Enabled / Disabled.
 If enabled, the configuration will be showed below.
 RapidStart Display Type (BIOS Save / Restore).

Intel Smart Connect Technology (Default: Disabled)

Allows BRIX to automatically update programs while system suspended. Option available: Enabled / Disabled.

(Dişabled)	Enable/Disable ISCT Support
	 **: Select Screen 14/Dirok: Select Trem Entervobi Cilck: Select */~: Change Opt P1: General Hein F2: Previous Values F3: Optimized Default F4: Save & Evit ESC/Right Click: Exit



Intel Smart Connect Technology is for S3 mode only. During the updating process, the monitor will not light up and no sound will be output from the speaker. This feature works best with programs designed to work automatically with the internet to obtain their data such as Microsoft Outlook, Microsoft Windows Live Mail, and Seesmic.

Intel Anti-Theft Technology Configuration (Default: Enabled)

Intel Anti-Theft Technology makes your BRIX useless to thieves with immediate shutdown. Option available: Enabled / Disabled.

Intel(R) Anti-Theft Technology Configuration	Enable/Disable Intel(R) AT in BIOS for testing only.
Iniel(R) Anti-Theft Technology (Enabled) Enter Intel(R) AT Suspend Mode (Disabled)	
	++: Select Screen t4/Silot: Select Ttem Enter/Obl Cilck: Select +/-: Chonge Opt. P1: General Help F2: Previous Values F3: Optimized Defaulrs F4: Save & Evit ESC/Right Cilck: Exit

Enter Intel AT Suspend Mode (Default: Disabled)
 Suspends Intel AT support.
 Option available: Enabled / Disabled.

Chipset

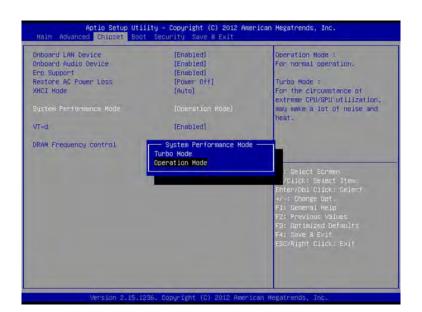
Allows users to view and configure the BRIX chipset features.



- Onboard LAN Device (Default: Enabled) Enabled / Disabled onboard LAN controller. Option available: Enabled / Disabled.
- Onboard Audio Device (Default: Enabled) Enabled / Disabled onboard audio controller. Option available: Enabled / Disabled.
- ERP Support (Default: Disabled)
 Enabled / Disabled ERP support function.
 Option available: Enabled / Disabled.
- Restore AC Power Loss (Default: Enabled)

This option provides user to set the mode if an AC power loss occurs. **Power On:** System power state when AC cord is re-plugged. **Power Off:** Do not power on system when AC power is back. **Last State:** Set system to the last state when AC power is removed. Option available: Power On / Power Off / Last State.

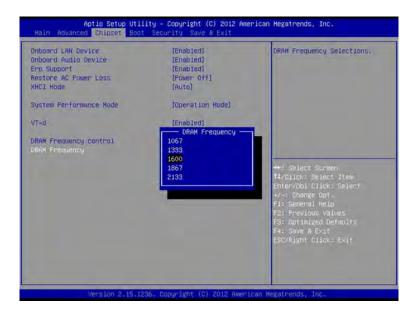
XHCI Mode (Default: Auto)
 Set USB port behavior.
 Option available: Samrt Auto / Auto.



Chipset

Allows users to view and configure the BRIX chipset features.

Onboard LAN Device Onboard Audio Device Era Support Restore AC Power Loss XHCI Mode	[Enabled] [Enabled] [Enabled] [Power Off] [Auto]	DRAH Frequency Selections.
System Performance Mode	[Operation Mode]	
VT-d	[Enabled]	
DRAM Frequency control DRAM Frequency	[Enabled] [1600]	
		 +: Select Spreen H/CLIck: Select Item Enter/Dbi Click: Select +/-: Change Opt. F1: Deneral Help F2: Previous Values F3: Dotimized Defaults F4: Save & Exit ESC/Right Click: Exit



System Performance Mode (Default: Operation Mode)

GIGABYTE provides several methods to users to overclock the BRIX in a convenient way.

Operation Mode: Lower power limitation to decrease the system temperature. Turbo Mode: Lift CPU power limition. CPU works normally.

Option available: Operation Mode / Turbo Mode.

VT-d (Default: Enabled)

Enables guest virtual machines to directly use peripheral devices through DMA and interrupt remapping. Option available: Enabled / Disabled.

DRAM Frequency Control (Default: Disabled)

Allows users to overclock memory frequency in a convenient way. Option available: Enabled / Disabled. If enabled DRAM Frequency Control, a submenu will be showed below

- DRAM Frequency
 - Option available: 1067 / 1333 / 1600 / 1867 / 2133.

Allows you to set the device priority during system boot-up.



Boot Option Priorities

Boot Option (Default: #1)
 Press <Enter> to configure the boot priority.
 Option may vary depends on your connected HDD numbers: #1 / (#2).

Allows you to set the device priority during system boot-up. BIOS setup will display an error message if the drive specified is not bootable.





CSM parameters

Launch CSM (Default: Disabled)

Enabled / Disabled UEFI CSM (Compatibility Support Module) to support a legacy PC boot process.

Option available: Enabled / Disabled.

The configurations will be showed below after enabled Launch CSM.

Boot option filter

.

Allows users to select the OS type to boot.

Option available: UEFI and legacy / Legacy only / UEFI only.

Launch PXE OpROM policy

Allows users to enable legacy option ROM for the LAN controller.

Option available: Do not launch / Legacy only.

Launch Storage OpROM policy

Allows users to select the UEFI or legacy option ROM for the storage device controller. Option available: Do not launch / UEFI only / Legacy only.

other PCI device ROM priority

Allows users to select the UEFI or Legacy option ROM for the PCI device controller. Option available: UEFI OpROM / Legacy OpROM

Network stack

Allows users to enable UEFI option ROM for the LAN controller. Option available: Disabled / Enabled.

Security

Allows you to safeguard an protect the BRIX from unauthorized use by setting up access passwords.



Administrator Password

Press <Enter> to configure the administrator password.

User Password

- Press <Enter> to configure the user password.
- System Mode

Display the system mode state.

Secure Boot

Display the Secure Boot Mode State.

Secure Boot Support (Default: Enabled)

Secure Boot requires all the applications that are running during the booting process to be pre-signed with valid digital certificates. This way, the system knows all the files being loaded before UEFI OS loads and gets to the login screen have not been tampered with. Option available: Enabled / Disabled.



Security

Allows you to safeguard an protect the BRIX from unauthorized use by setting up access passwords.





Secure Boot Mode (Default: Standard)

Define the Secure Boot Mode.

Option available: Standard / Custom.

The Key Management below can be selected if Secure Boot Mode is Custom.

Factory Default Key Provisioning (Default: Disabled)

Install factory default secure boot keys when system is in setup mode. Option available: Enabled / Disabled.

All the security boot keys are pre-installed before the delivery and users can setup each security keys via various methods.

The Save & Exit menu displays the various options to quit from the BIOS setup. Highlight any of the exit options then press <Enter>.



Save Changes and Reset

Active this option to reset system after saving the changes. Option available: Yes / No.

- Discard Changes and Reset
 Discards changes made and close the BIOS setup and exit.
 Option available: Yes / No.
- Restore Defaults Press <Enter> on this item and then

Press **<Enter>** on this item and then press **<Y>** key to load the default BIOS settings. Option available: Yes / No.

Boot Override

Press **<Enter>** to configure the device as the boot-up drive.