

Vi8750S Motherboard Manual

Vi8750S

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Viglen, EMC and the 'CE' mark

CE Marking

European standards are being harmonised across borders. If products comply with the same standards in all European countries, product exporting and importing is made simple - paving our way to a common market. If you buy a product with a 'CE' mark on it (shown below), on the box, in the manual, or on the guarantee - it complies with the currently enforced directive(s).



Introduction to EMC

EMC (Electromagnetic Compatibility) is the term used to describe certain issues with RF (Radio Frequency) energy. Electrical items should be designed so they do not interfere with each other through RF emissions. E.g. If you turn on your microwave, your television shouldn't display interference if both items are CE marked to the EMC directive.

If emitted RF energy is not kept low, it can interfere with other electrical circuitry - E.g. Cars Automatic Braking Systems have been known to activate by themselves while in a strong RF field. As this has obvious repercussions ALL electrical products likely to cause RF related problems have to be 'CE' marked from 1st January 1996 onwards.

If a product conforms to the EMC directive, not only should its RF emissions be very low, but its immunity to RF energy (and other types) should be high. The apparatus has to resist many 'real world' phenomena such as static shocks and mains voltage transients.

Viglen's Environment laboratory

To gain a 'CE' mark, the Viglen computer range has had to undergo many difficult tests to ensure it is Electromagnetically Compatible. These are carried out in the in-house 'Environment lab' at Viglen Headquarters. We have made every effort to guarantee that each computer leaving our factory complies fully with the correct standards. To ensure the computer system maintains compliance throughout its functional life, it is essential you follow these guidelines.

- Install the system according to Viglen's instructions
- If you open up your Viglen:
 - Keep internal cabling in place as supplied.
 - Ensure the lid is tightly secured afterwards
 - Do not remove drive bay shields unless installing a 'CE' marked peripheral in its place
 - The clips or 'bumps' around the lips of the case increase conductivity - do not remove or damage.
 - Do not remove the ferrite ring from the L.E.D cables.

- Only use your Viglen computer with 'CE' marked peripherals

This system has been tested in accordance with European standards for use in residential and light industrial areas-this specifies a 10 meter testing radius for emissions and immunity. If you do experience any adverse effects which you think might be related to your computer, try moving it at least 10 meters away from the affected item. If you still experience problems, contact Viglen's Technical Support department who will put you straight through to an EMC engineer - s/he will do everything possible to help. If modifications are made to your Viglen computer system, it might breach EMC regulations. XMA take no responsibility (with regards to EMC characteristics) of equipment which has been tampered with or modified.



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Chapter 1 Motherboard Overview

1.1 Introduction

This manual describes the Viglen Vig750S motherboard inside your computer. The motherboard is the most important part of your computer. It contains the CPU, memory and graphics circuitry that make the computer work in the correct manner.

The Vig750S motherboard is a thin mini-ITX form factor offering legacy to premium features. PS/2 mouse/keyboard combo port, integrated Graphics via VGA, DVI, DisplayPort and HDMI, High Definition Audio via 3 flexible audio jacks and integrated 10/100/1000 network connection, as well as 4 USB 2.0 and 2 USB 3.0 ports to enrich your multimedia creation experience.

The Vig750S Motherboard supports 6th generation Intel Core i3, i5, and i7 processors, as well as being Microsoft Windows 7, 8.1 and Windows 10 WHQL certified.

This manual contains technical information about the Viglen Vig750S motherboard and other hardware components inside your computer. If you are new to computers, we recommend that you read the user guide first. If you are an experienced computer user, this manual should provide all the information you will need to perform simple upgrades and maintenance.

We hope that this manual is both readable and informative. If you have any comments for suggestions about how we could improve the format, then please fill out the form at the back of the manual and send it to us.

Above all we hope that you enjoy using your Viglen computer.

1.2 **Feature Summary**

1.2.1 **Form Factor:**

- Thin Mini ITX Form Factor 6.7 inch x 6.7 inch (17.0 cm x 17.0 cm)

1.2.2 **Processor:**

- Supports 6th generation Intel® Core™ i7, Intel® Core™ i5, Intel® Core™ i3, Intel® Pentium® and Celeron® processors in an LGA1151 socket.
- Supports 14nm CPU
- Supports Intel® Turbo Boost Technology 2.0*
- Integrated graphics processing (processors with Intel® Graphics Technology)
- External graphics interface controller
- Integrated memory controller
- The Intel® Turbo Boost Technology 2.0 support depends on the CPU types.

1.2.3 **Chipset**

- Intel® H110T Chipset

1.2.4 **Memory**

- 2 x SO-DIMM, DDR4 2133MHz, non-ECC, un-buffered memory. Up to 32GB total
- Dual-channel memory architecture

1.2.5 **Graphics**

- Integrated graphics support for processors with Intel Graphics Technology.
- Multi-VGA output support: HDMI/DisplayPort/LVDS ports
- Supports HDMI with max. resolution of 4096x2160@24Hz /2560x1600@60Hz
- Supports DisplayPort with max. resolution of 4096 x 2304 @60Hz
- Supports LVDS with max. resolution of 1920 x 1200 @60Hz
- Supports up to 2 displays simultaneously
- Maximum shared memory of 1 GB

1.2.6 **Audio**

- Realtek® ALC887 7.1-Channel High Definition Audio CODEC *1
- Supports: Jack-detection, Front Panel Jack-retasking

1.2.7 **LAN**

- Realtek® RTL8111H, 1 x Gigabit LAN Controller
- Intel® I219V, 1 x Gigabit LAN Controller

1.2.8 Storage

- 2x SATA 6Gb/s ports (SATA6G_1 & SATA6G_2)
- 1x M.2 M Key type 2242/2260 for storage (SATA & PCIE mode)

1.2.9 Internal Connectors

- 3x USB 2.0 connector(s) support(s) additional 5 USB 2.0 port(s)
- 1x LVDS Connector
- 1x M.2 Socket 1 with E key, type 2230, Wi-Fi devices support
- 1x M.2 Socket 3 with M key, type 2242/2260, storage devices support
- 1x COM port(s) Connector
- 2x SATA 6Gb/s connector(s)
- 1x SATA Power Connector
- 1x CPU Fan connector (1 x 4 -pin)
- 1x Chassis Fan connector (1 x 4 -pin)
- 1x System Panel Connector
- 1x Front Panel Audio Connector
- 1 x Chassis Intrusion Connector
- 1x 2-pin Internal DC Power Connector
- 1x Stereo Speaker Connector
- 1x DMIC Header
- 1x Backlight Inverter Voltage Selection Header
- 1x FPD Brightness Header
- 1x Panel Voltage Selection Header
- 1x Panel Off Header
- 1 x 14-1 pin TPM connector
- 1x Clear CMOS jumper

1.2.10 Expansion Slots

- 1 x M.2 E Key type 2230 for WiFi

1.2.11 Rear I/O Ports

- 1x DisplayPort
- 1x HDMI
- 2x LAN (RJ45) port(s)
- 4x USB 3.0 (blue)
- 2x Audio jack(s)
- 1x DC Power Connector

1.3 System Board Connectors

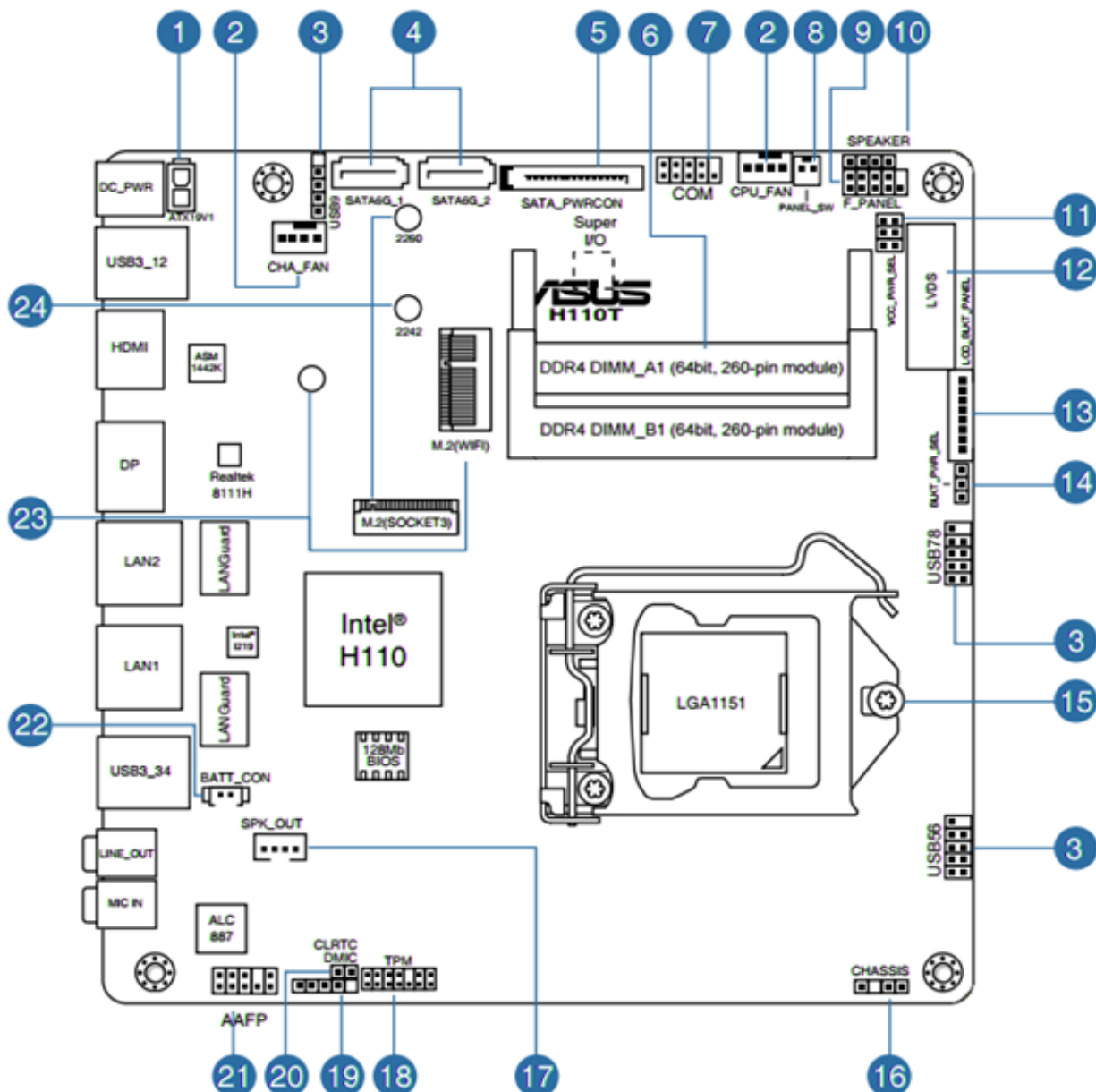


Figure 1: System Board Connectors

System Board Connectors Table			
1	Internal DC Power Connector (2-pin ATX19V1)	13	FPD Brightness Connector (8-pin LCD_BKLT_PANEL)
2	CPU and Chassis Fan Connectors (4-pin CPU_FAN, 4-pin CHA_FAN)	14	Backlight Power Selector (3-pin BLKT_PWR_SEL)
3	USB2.0 Connectors (5-1 pin USB9, 10-1 pin USB78, 10-1 pin USB56)	15	Intel® LGA1151 CPU socket
4	Serial ATA 6b/s Connectors (SATA6G_1, SATA6G_2)	16	Chassis Intrusion Connector (4-1 pin CHASSIS)
5	Serial ATA Power Connector (SATA_PWRCON)	17	Internal Speaker Out Header (4-pin SPK_OUT)
6	DDR4 DIMM slots (DIMM_A1, DIMM_B1)	18	TPM connector (14-1 pin TPM)

7	Serial Port (COM) Connector (10-1 pin COM)	19	DMIC Connector (5-1 pin DMIC)
8	LCD Panel Switch Header (2-pin PANEL_SW)	20	Clear RTC Jumper (2-pin CLRTC)
9	System Panel Connector (10-1 pin F_PANEL)	21	Front Panel Audio Connector (10-1 pin AAFP)
10	Speaker Connector (4-pin SPEAKER)	22	Battery Connector (2-pin BATT_CON)
11	VCC Power Selector (VCC_PWR_SEL)	23	M.2 Socket (WIFI)
12	LVDS Connector	24	M.2 Socket (Storage)

Table 1: System Board Connectors

1.3.1 (1) Internal DC Power Connector (2-pin ATX19V1)

For connecting an ATX power supply. Correctly orient the ATX power supply plugs into these connectors, with GND connected to PIN 1 and push down firmly until the connectors completely fit.

NOTE: This connector supports 12V and 19V ATX power supply models.

1.3.2 (2) CPU and Chassis Fan Connectors (4-pin CPU_FAN, 4-pin CHA_FAN).

Connect the CPU fan and chassis fan cables to the CPU fan and chassis fan connectors respectively on the motherboard, ensuring that the black wire of each cable matches the ground pin of the connector.

NOTE: Do not forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components. These are not jumpers! Do not place jumper caps on the fan connectors! The CPU_FAN connector supports a CPU fan of maximum 1A (12 W) fan power.

1.3.3 (3) USB2.0 Connectors (5-1 pin USB9, 10-1 pin USB78, 10-1 pin USB56)

This connector is for USB 2.0 ports. Connect the USB module cable to these connectors, then install the module to a slot opening at the back of the system chassis. This USB connector complies with USB 2.0 specifications and supports up to 480Mbps connection speed.

1.3.4 (4) Serial ATA 6b/s Connectors (SATA6G_1, SATA6G_2)

These connectors are for connecting to Serial ATA 6.0 Gb/s disk drivers via SATA 6.0Gb/s signal cables.

1.3.5 (5) Serial ATA Power Connector (SATA_PWRCON)

This connector is for the SATA power cable. The power cable plug is designed to fit this connector in only one orientation. Find the proper orientation and push down firmly until the connector completely fit. To provide power to your SATA device, connect the SATA power cable to this connector.

1.3.6 (6) DDR4 DIMM Slots (DIMM_A1, DIMM_B1)

Install 2GB, 4GB, 8GB and 16 GB unbuffered non-ECC DDR4 DIMMs into these DIMM sockets.

1.3.7 (7) Serial port connector (10-1 pin COM1)

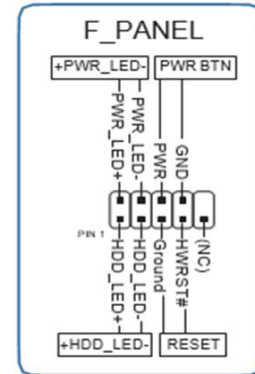
Connect the serial port module cable to this connector, then install the module to a slot opening at the back of the system chassis.

1.3.8 (8) LCD Panel Switch Header (2-pin PANEL_SW)

This 2-pin header is for connecting a monitor switch that can turn off the LCD panel display backlight.

1.3.9 (9) System Panel Connector (10-1 pin F_PANEL)

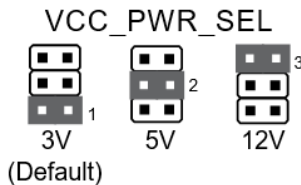
This connector supports several chassis-mounted functions.



1.3.10 (10) Speaker Connector (4-pin SPEAKER)

This 4-pin connector is for the chassis-mounted system warning speaker. The speaker allows you to hear system beeps and warnings.

1.3.11 (11) VCC Power Selector (VCC_PWR_SEL)



Pins	Setting
1 (Default)	3V
2	5V
3	12V

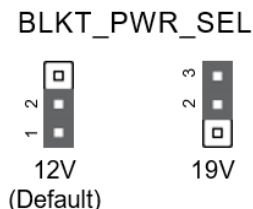
1.3.12 (12) LVDS Connector

This connector is for an LCD monitor that supports Low-voltage Differential Signalling (LVDS) interface.

1.3.13 (13) FPD Brightness Connector (8-pin LCD_BKLT_PANEL)

This connector is for the LCD panel backlight and brightness controls. It enables the LCD panel backlight, provides backlight control signals, and provides brightness control signals for the brightness button on the front panel.

1.3.14 (14) Backlight Power Selector (3-pin BLKT_PWR_SEL)



Pins	Setting
1-2 (Default)	12V
2-3	19V

1.3.15 (15) Intel® LGA1151 CPU Socket

Install Intel® LGA1151 CPU into this surface mount LGA1151 socket, which is designed for 6th Generation Intel® Core™ i7 / i5 / i3, Pentium®, and Celeron® processors.

1.3.16 (16) Chassis Intrusion Connector (4-1 pin CHASSIS)

This connector is for a chassis-mounted intrusion detection sensor or switch. Connect one end of the chassis intrusion sensor or switch cable to this connector. The chassis intrusion sensor or switch sends a high-level signal to this connector when a chassis component is removed or replaced. The signal is then generated as a chassis intrusion event.

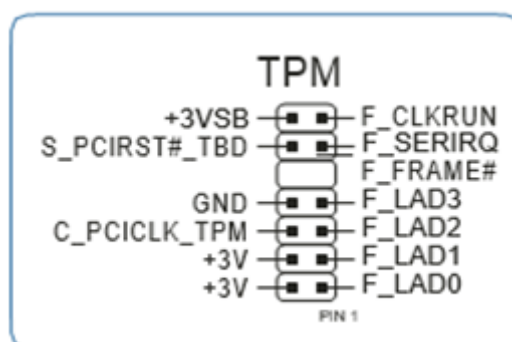
By default, the pins labelled “Intruder” are shorted with a jumper cap. Remove the jumper caps only when you intend to use the chassis intrusion detection feature.

1.3.17 (17) Internal Speaker Out Header (4-pin SPK OUT)

The internal mono speaker header allows connection to an internal, low-power speaker for basic system sound capability. The subsystem is capable of driving a speaker load of 4 Ohms at 3 Watts (rms).

1.3.18 (18) TPM Connector (14-1 pin TPM)

This connector supports a Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity.



1.3.19 (19) DMIC Connector (5-1pin DMIC)

The DMIC connector is for connecting the digital microphone module used in All-in-One chassis.

1.3.20 (20) Clear RTC RAM (2-pin CLRTC)

This header allows you to clear the CMOS RTC RAM data of the system setup information such as date, time, and system passwords

To erase the RTC RAM:

- 1 Turn OFF the computer and unplug the power cord.
- 2 Use a metal object such as a screwdriver to short the two pins.
- 3 Plug the power cord and turn ON the computer.
- 4 Hold down the key during the boot process and enter BIOS setup to re-enter data.



NOTE: If the above steps do not work, please remove the onboard battery and short the two pins to clear the CMOS RTC RAM data. After clearing the CMOS, reinstall the battery.

1.3.21 (21) Front panel Audio Connector (10-1 pin AAFP)

This connector is for a chassis-mounted front panel audio I/O module that supports HD Audio. Connect one end of the front panel audio I/O module cable to this connector.

NOTE: We recommend that you connect a high-definition front panel audio module to this connector to avail of the motherboard's high-definition audio capability.

1.3.22 (22) Battery Connector (2-pin BATT_CON)

Install 2 GB, 4 GB, 8 GB, and 16 GB unbuffered non-ECC DDR4 DIMMs into these DIMM sockets.

1.3.23 (23) M.2 Socket (Wi-Fi)

This socket connects to an M.2 WI-FI device. Use the bundled screw 3020-01810100 to secure your M.2 device.

NOTE: This socket supports E Key and 2230 Wi-Fi devices.

1.3.24 (24) M.2 Socket (Storage)

This socket connects to an M.2 SSD module. Use the bundled screw 13020-0181000 to secure your M.2 device.

NOTE: This socket supports M Key and 2242/2260 storage devices.

The IRQ assignments for this motherboard are:

	A	B	C	D	E	F	G	H
HD Audio Controller	shared	–	–	–	–	–	–	–
XHCI	shared	–	–	–	–	–	–	–
SATA Controller	shared	–	–	–	–	–	–	–
Realtek LAN Controller	-	shared	–	–	–	–	–	–
Intel LAN	shared	–	–	–	–	–	–	–
M.2	shared	–	–	–	–	–	–	–
IGD	shared	–	–	–	–	–	–	–
WLAN	shared	–	–	–	–	–	–	–

Table 2: IRQ Assignments

1.4 Rear Panel Connectors

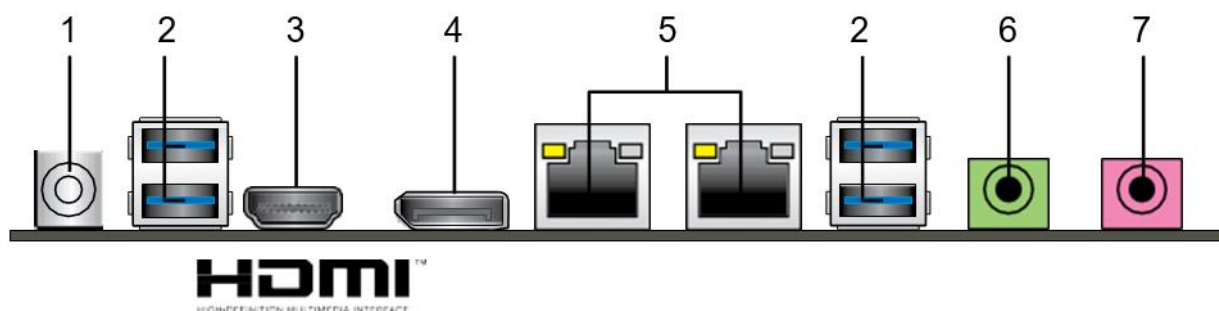


Figure 2: Rear Panel Connectors

System Board Connectors Table			
1	DC Power Connector	5	LAN (RJ-45) Ports
2	USB 3.0 Ports	6	Line Out Port (Lime)
3	HDMI Port	7	Microphone Port (Pink)
4	DisplayPort Port		

Table 2: Rear Panel Connectors

1.4.1 (1) DC Power Connector

The power adapter is connected to this port. The port can support both 19V and 12V DC input.

NOTE: If a 35W CPU is installed on the system, use a 90W adapter. If a 45W or higher CPU is installed on the system, use a high-rated adapter. If your system is using an LVDS panel, use a 120W adapter.

1.4.2 (2) USB 3.0 Ports.

These 9-pin Universal Serial Bus (USB) ports are for USB 3.0/2.0 devices.

NOTE: It is recommended that USB3.0 devices connected to USB2.0 ports for faster performance from the device. USB devices connected to the USB2.0 and USB3.0 ports are controlled by xHCI controller. Some legacy devices may need their firmware updated for compatibility.

1.4.3 (3) HDMI Port

This port is for a High-Definition Multimedia Interface (HDMI) connector, and is HDCP compliant allowing playback of HD DVD, Blu-ray, and other protected content.

1.4.4 (4) DisplayPort Port

This port is for DisplayPort compatible devices.

1.4.5 (5) LAN (RJ-45) Port

This port allows Gigabit connection to a Local Area Network (LAN) through a network hub.

Activity/Link LED		Speed LED	
Status	Description	Status	Description
Off	No link	OFF	10Mbps connection
Orange	Linked	ORANGE	100Mbps connection
Orange (Blinking)	Data activity	GREEN	1Gbps connection
Orange (Blinking then steady)	Ready to wake up from S5 mode	–	–

Table 3: LAN port LED indications

The two LEDs are built into the RJ-45 LAN connector located on the back panel. These LEDs indicate the status of the LAN as shown in Table 4.

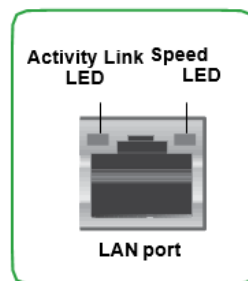


Figure 3: RJ-45 LAN Connector

1.4.6 (6) Line Out port (lime)

This port connects to a headphone or a speaker.

1.4.7 (7) Microphone port (pink)

This port connects to a microphone.

Port	Audio 2.1, 4.1, 5.1, or 7.1-channel configuration			
	Headset 2.1-channel	4.1-channel	5.1-channel	7.1-channel
Line Out (Rear Panel)	Front Speaker Out	Front Speaker	Front Speaker Out	Front Speaker Out
Mic (Rear Panel)	MIC	Rear Speaker Out	Rear Speaker Out	Rear Speaker Out
Headphone (Front Panel)	Headphone	Headphone	Centre/Subwoofer Speaker Out	Centre/Subwoofer Speaker Out
Mic (Front Panel)	MIC	MIC	MIC	Side Speaker Out

Table 4: Audio 2.1, 4.1, 5.1, or 7.1-channel configuration

NOTE: To configure a 7.1-channel audio output, use a chassis with HD audio module in the front panel to support a 7.1-channel audio output.

Chapter 2 System Board Options

2.1 Upgrades

The Vig750S motherboard supports Intel® Core i7, i5, i3, Pentium® and Celeron® processors in the LGA1151 socket. RAM can be upgraded to a maximum of 32GB using DDR4 2133MHz Non ECC Unbuffered SO-DIMMs.

WARNING!

Unplug the system before carrying out the procedures described in this chapter. Failure to disconnect power before you open the system can result in personal injury or equipment damage. Hazardous voltage, current, and energy levels are present in this product. Power switch terminals can have hazardous voltages present even when the power switch is off.

The procedures assume familiarity with the general terminology associated with personal computers and with the safety practices and regulatory compliance required for using and modifying electronic equipment.

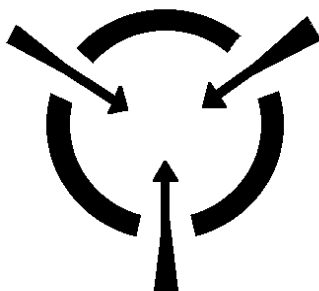
Do not operate the system with the cover removed. Always replace the cover before turning on the system.

As the colours of the wires in the mains lead of this computer may not correspond with the coloured markings identifying the terminals in your plug precede as follows:

The wire which is coloured **green-and-yellow** must be **connected** to the **terminal** in the plug which is marked by the letter **E** or by the safety Earth symbol **Q** or coloured green or **green-and-yellow**.

The wire which is coloured blue must be connected to the terminal which is marked with the letter **N** or coloured **black**.

The wire which is coloured brown must be connected to the terminal which is marked with the letter **L** or coloured **red**.



CAUTION!

The Viglen Vig750S motherboard and associated components are sensitive electronic devices. A small static shock from your body can cause expensive damage to your equipment.

2.2 Upgrade Procedures

Make sure you are earthed and free of static charge before you open the computer case. If you are unsure about upgrading your computer, return it to Viglen so that a qualified engineer can perform the upgrade.

Steps to take to prevent static discharge:

1. The best way to prevent static discharge is to buy an anti-static strap from your local electrical shop. While you are wearing the strap and it is earthed, static charge will be harmlessly bled to ground.
2. Do not remove the component from its anti-static protective packaging until you are about to install it.
3. Hold boards by the edges - try not to touch components / interface strips etc.

NOTE: We recommend that you return your computer to the service department for upgrading. Any work carried out is fully guaranteed. Upgrades should only be carried out by persons who are familiar with handling IC's, as incorrect installation will invalidate the guarantee.

2.2.1 Upgrading the CPU

CAUTION!

Before installing or removing a processor, make sure the AC power has been removed by unplugging the power cord from the computer; the standby power LED should not be lit. Failure to do so could damage the processor and the board.

To install a processor, follow these instructions:

1. Unlatch the processor socket lever by pushing it down (Figure 5, A) and away from the socket (Figure 5, B).

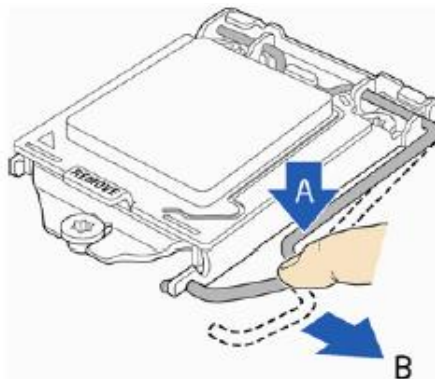


Figure 4: Unlatch the socket lever

2. Rotate the socket lever to lift the load plate away from the socket (Figure 5, A). Make sure that the load plate is in the fully open position (Figure 5, B) while being careful not to damage adjacent components. Do not touch the socket contacts.

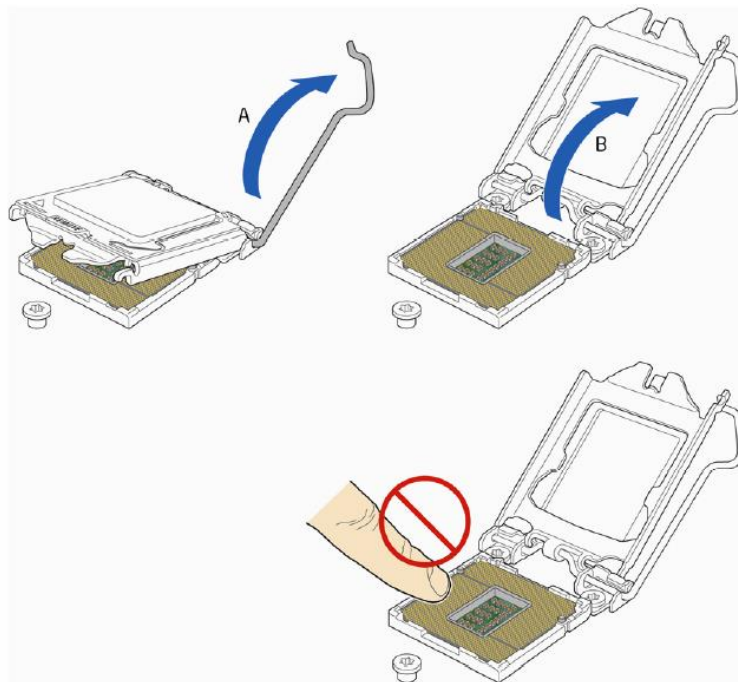


Figure 5: Lift the load plate

3. Remove the processor from its protective cover. Hold the processor only at the edges, being careful not to touch the bottom of the processor (see Figure 6).

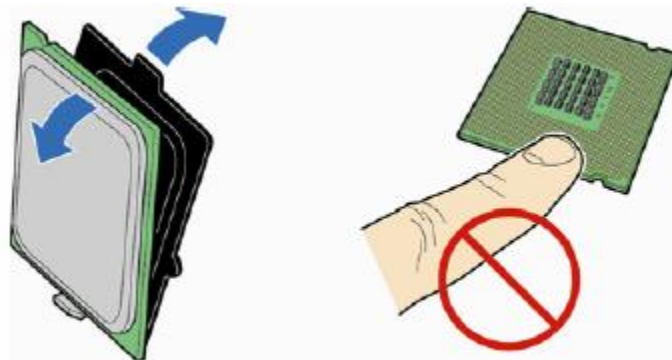


Figure 6: Remove the processor from the protective cover

Note: Do not discard the processor cover. Always replace the processor cover when you remove the processor from the socket.

4. Hold the processor with your thumb and index finger oriented as shown in Figure 7 to align your fingers with the socket finger cut-outs. Make sure that the processor Pin 1 indicator (gold triangle) is aligned with the Pin 1 chamfer on the socket (Figure 7, B) and that the notches on the processor align with the posts on the socket (Figure 7, C). Lower the processor straight down without tilting or sliding it in the socket (Figure 7, A).

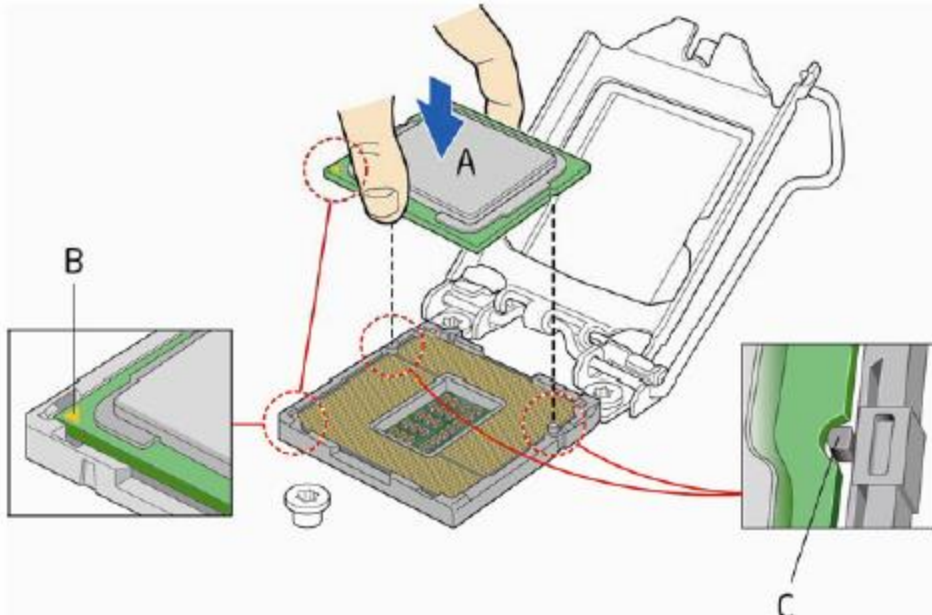


Figure 7: Install the processor

- Carefully lower the socket lever (Figure 8) while making sure that the front edge of the load plate slides under the shoulder screw cap as the lever is lowered. Latch the socket lever under the load plate tab (Figure 8, C, and D). The socket cover (Figure 8, B) will pop off as shown.

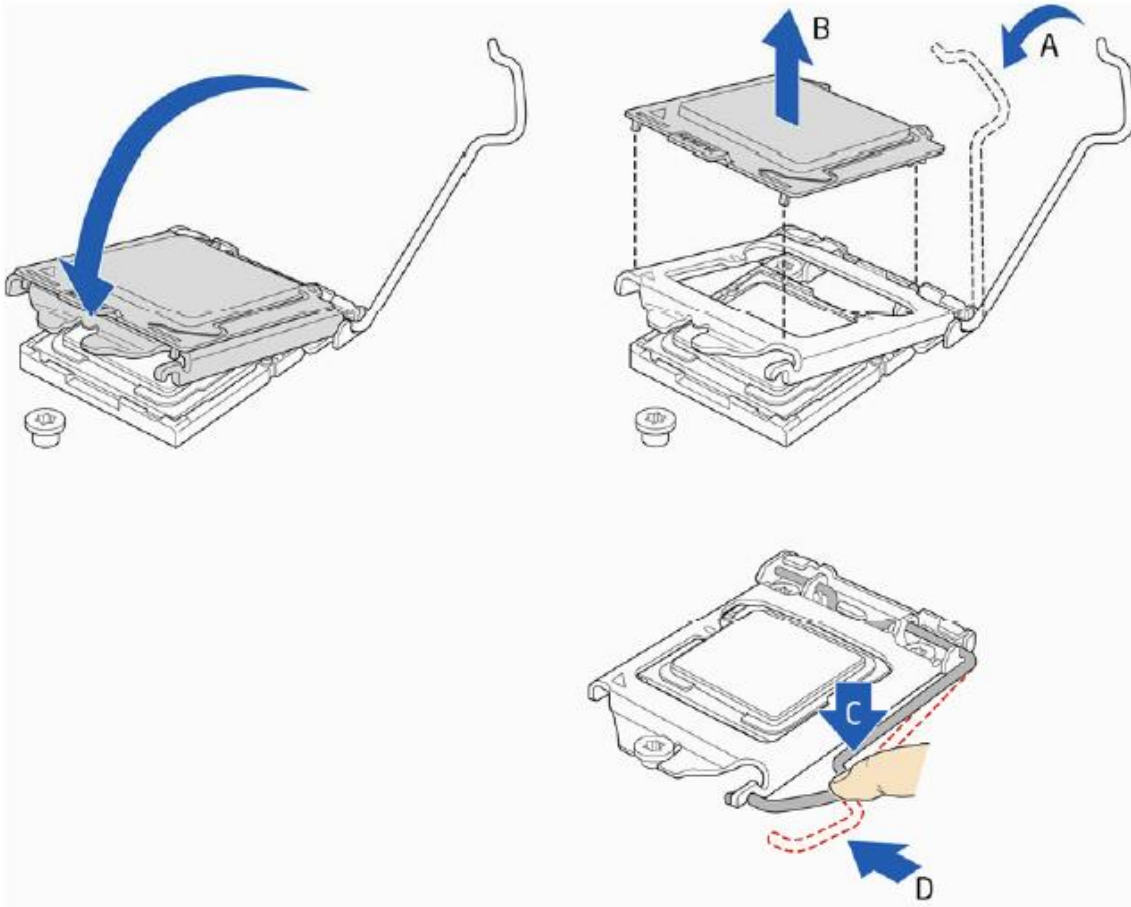


Figure 8: Secure the load plate in place

- Pick up the socket cover and remove it from the desktop board.

Connecting the Processor Fan Heat Sink Cable

Connect the processor fan heat sink power cable to the 4-pin processor fan header (see Figure 9). A fan with a 4-pin connector as shown in Figure 9 is recommended.

1. Make sure the four hooks are in the proper position before you install the cooler.

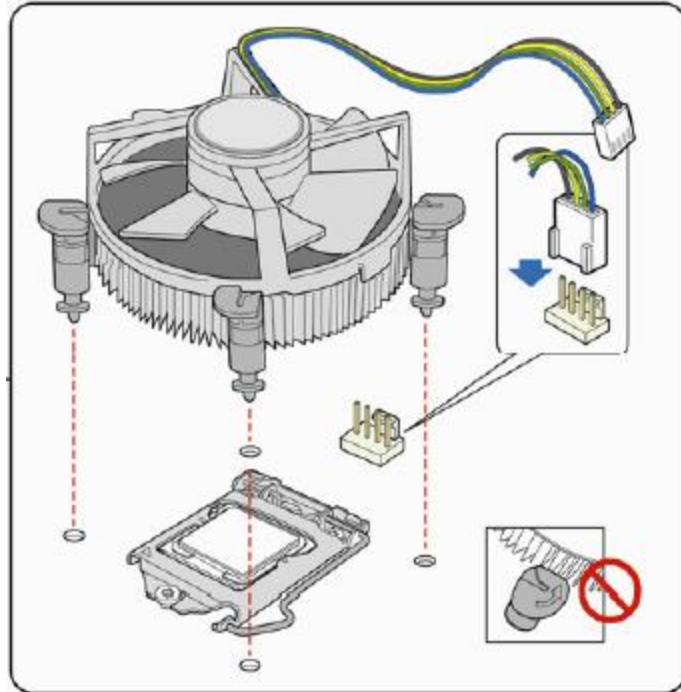


Figure 9: Connecting the processor fan

2.2.2 Installing & Removing Memory Modules

Installing Memory

You may install 2GB, 4GB, 8GB and 16GB unbuffered non-ECC DDR4 DIMMs into the DIMM sockets.

The motherboard has two SO-DIMM sockets. The motherboard supports the following memory features:

- 2 x DDR4 SO-DIMMs with gold-plated contacts.
- Non-ECC (64-bit) memory.
- 2GB, 4GB, 8GB and 16GB modules.
- Memory Speeds 2133MHz
- Max. 32GB, DDR4

To install DIMMs, follow these steps:

1. Observe the precautions in “Before You Begin”. Turn off the computer and all peripheral devices.
2. Remove the computer cover and locate the SO-DIMM sockets.
3. Holding the SO-DIMM MM by the edges, remove it from its antistatic package.
4. Make sure the clips at either end of the socket are pushed away from the socket.
5. Position the SO-DIMM above the socket. Align the two small notches in the bottom edge of the SO-DIMM with the keys in the socket. Insert the bottom edge of the SO-DIMM into the socket.
6. When the SO-DIMM is seated, push down on the top edge of the SO-DIMM until the retaining clips at the ends of the socket snap into place. Make sure the clips are firmly in place.
7. Replace the computer cover.

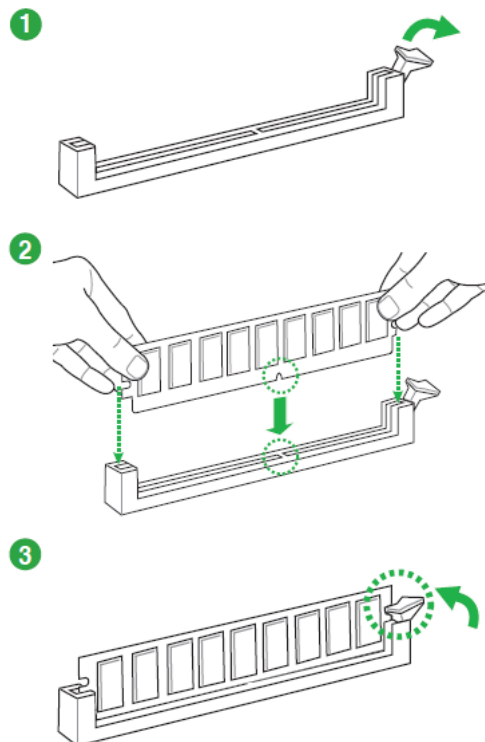


Figure 10: Memory Installation

Removing Memory

To remove a DIMM, follow these steps:

1. Observe the precautions in "Before You Begin".
2. Turn off all peripheral devices connected to the computer. Turn off the computer.
3. Remove the computer cover.
4. Gently spread the retaining clips at each end of the socket. The DIMM pops out of the socket. Hold the DIMM by the edges, lift it away from the socket, and store it in an antistatic package.
5. Reinstall and reconnect any parts you removed or disconnected to reach the DIMM sockets.

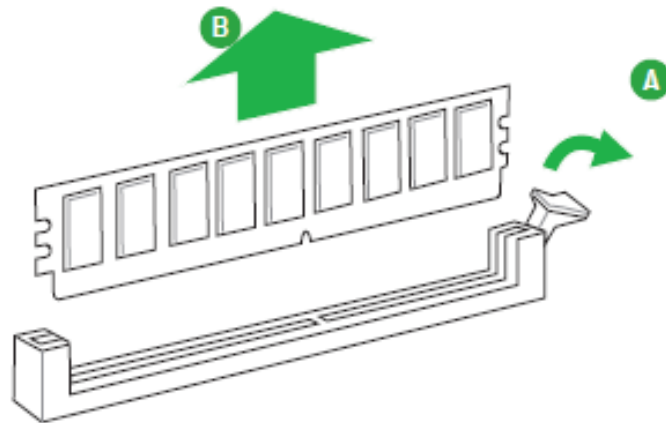


Figure 11: Removing Memory Modules

Chapter 3 Solving Problems

3.1 Technical Support

3.1.1 Technical Support Contact Details

The first part of this chapter helps you identify and solve problems that might occur when the system is in use. The second part lists error code messages that might be displayed.

Please remember that if you cannot solve the problem by yourself then you should contact XMA Technical Support for further assistance.

XMA Technical Support can be reached in the following ways:

Telephone: 01727 201 850
Fax: 01727 201 858
Email: technical-support@xma.co.uk

You can also look for support information on our web site:

<http://www.xma.co.uk/>

Device drivers and various useful utilities can be downloaded from our ftp site:

<http://download.viglen.co.uk/files/Motherboards/Vig750S>

3.1.2 Resetting the System

Before checking your system for hardware problems, it is always a good idea to try resetting your computer and see if a re-boot can solve the problem. Most software related problems can be solved simply by re-booting your PC.

To do the following	Press
Soft boot: Clear the system memory and reload the operating system (also called warm reset).	<Ctrl + Alt + Del>
Cold boot: Clear the system memory, halt power to all peripherals, restart POST, and reload the operating system.	Power off/on or reset button (at front of the system)

Table 6: Re-booting PC

3.2 Troubleshooting Procedures

This section provides a step-by-step troubleshooting procedure to identify a problem and locate its source.

CAUTION!

1. Turn off the system and any peripheral devices before you disconnect any peripheral cables from the system. Otherwise, you can permanently damage the system or the peripheral devices.
2. Make sure the system is plugged into a properly grounded power outlet.
3. Make sure your keyboard and video display are correctly connected to the system. Turn on the video display, and turn up its brightness and contrast controls to at least two-thirds of the maximum (refer to the documentation supplied with the video display).
4. If the operating system normally loads from the hard disk drive, make sure there is no diskette in the diskette drive. If the operating system normally loads from a diskette, insert the operating system diskette into the drive.
5. Turn on the system. If the power indicator does not light, but the system seems to be operating normally, the indicator is probably defective. Monitor the power-on self-test (POST) execution. Each time you turn on the system, the POST checks the system board, memory, keyboard, and certain peripheral devices.

NOTE: If the POST does not detect any errors, the system beeps once and boots up.

Errors that do not prevent the boot process (non-fatal errors) display a message that looks similar to the following:

```
Error Message Line 1
Error Message Line 2
Press <DEL> for Set-up, <F1> to Boot
You can note the error and press <F1> to resume the boot-up process, or <DEL>
to enter Set-up.
```

Errors that prevent the boot process from continuing (fatal errors), are communicated by a series of audible beeps. If this type of error occurs, refer to the error codes and messages listed at the end of this chapter.

6. Confirm that the operating system has loaded.

3.3 Problems & Suggestions

Table 7: Problems and Suggestions	
What happens	What to do
Application software problems	<p>Try resetting the system.</p> <p>Make sure all cables are installed correctly.</p> <p>Verify that the system board jumpers are set properly.</p> <p>Verify that your system hardware configuration is set correctly. In Setup, check the values against the system settings you recorded previously. If an error is evident (wrong type of drive specified, for example), make the change in Setup and reboot the system. Record your change.</p> <p>Make sure the software is properly configured for the system. Refer to the software documentation for information.</p> <p>Try a different copy of the software to see if the problem is with the copy you are using.</p> <p>If other software runs correctly on the system, contact the vendor of the software that fails.</p> <p>If you check all of the above with no success, try clearing CMOS RAM and reconfiguring the system. Make sure you have your list of system settings available to re-enter, because clearing CMOS RAM sets the options to their default values.</p>
Characters on-screen are distorted or incorrect	<p>Make sure the brightness and contrast controls are properly adjusted on the monitor.</p> <p>Make sure the video signal cable and power cables are properly installed.</p> <p>Make sure your monitor is compatible with the video mode you have selected.</p>
Characters do not appear on screen	<p>Make sure the video display is plugged in and turned on.</p> <p>Check that the brightness and contrast controls are properly adjusted.</p> <p>Check that the video signal cable is properly installed.</p> <p>Make sure a video board is installed, enabled, and the jumpers are positioned correctly.</p> <p>Reboot the system.</p>

Table 7: Problems and Suggestions

Table 7: Problems and Suggestions (Continued)	
What happens	What to do
CMOS RAM settings are wrong	If system settings stored in CMOS RAM change for no apparent reason (for example, the time of day develops an error), the backup battery may no longer have enough power to maintain the settings. Replace the battery (Chapter 2).
Diskette drive light does not go on when drive is in use or is tested by POST	Make sure the power and signal cables for the drive are properly installed. Check that the drive is properly configured and enabled in Setup.
Hard drive light does not go on when drive is in use or is tested by POST	Make sure the power and signal cables for the drive are properly installed. Make sure the front panel connector is securely attached to the system board headers. Check that the drive is properly configured and enabled in Setup. Check the drive manufacturer's manual for proper configuration for remote hard disk drive activity.
Power-on light does not go on	If the system is operating normally, check the connector between the system board and the front panel. If OK, the light may be defective.
Prompt doesn't appear after system boots	It's probably switched off. A serious fault may have occurred consult your dealer service department / Technical Support.
Setup, can't enter	If you can't enter Setup to make changes, check the switch that disables entry into Setup (Chapter 2). If the switch is set to allow entry into Setup, you might need to clear CMOS RAM to the default values and reconfigure the system in Setup.
System halts before completing POST	This indicates a fatal system error that requires immediate service attention. Note the screen display and write down any beep code emitted. Provide this information to your dealer service department / Technical Support.

Table 8: Problems and Suggestions (continued)

Chapter 4 System BIOS

4.1 What is the BIOS?

The BIOS (Basic Input Output System) is an important piece of software which is stored in a ROM (Read Only Memory) chip inside the computer. It consists of the basic instructions for controlling the disk drives, hard disk, keyboard and serial/parallel ports. The BIOS also keeps a list of the specifications of the computer in battery-backed RAM (also known as the CMOS RAM) and provides a special Setup program to change this information.

The BIOS in your Viglen computer is guaranteed to be fully compatible with the IBM BIOS. It has been written by American Megatrends Inc., an industrial leader in the field of BIOS software.

4.2 The Power-On sequence

When the computer is first switched on, certain instructions in the BIOS are executed to test various parts of the machine. This is known as the POST (Power-On Self-Test) routine. When you switch the computer on (or when you press the Reset button or press <Ctrl> + <Alt>+ <Delete> keys, which has the same effect), you can see on the monitor that it counts through the memory, testing it. The floppy disk drives are then accessed and tested, and the various interfaces are checked. If there are any errors, a message is displayed on the screen.

4.3 Managing and Updating BIOS

4.3.1 Introduction

There are up three methods of updating BIOS to the latest Viglen approved version. The number of options made available for any particular board may vary depending on BIOS Support, drive support and BIOS update file size. You only need to use one.

- BIOS Updater
- EZ-Flash 2 Update
- BIOS recovery

Latest BIOS files and Utility are available from Viglen FTP site:
<http://download.viglen.co.uk/files/Motherboards/Vig750S/BIOS>

NOTE: Please review the instructions distributed with the upgrade utility before attempting a BIOS upgrade.

4.3.2 BIOS Update Instructions under DOS

The BIOS Updater allows you to update BIOS in a DOS environment. This utility also allows you to copy the current BIOS file that you can use as a backup when the BIOS fails or gets corrupted during the updating process.

1. Save BIOS update zipped file to a temporary directory.
2. Extract the necessary files.
3. Copy the contents of the file to a bootable USB key or CD-ROM media.
4. Boot the target PC with the device connected or inserted.
5. Select **<F8>** during POST to display the Boot Menu and select your bootable device.
6. At the DOS prompt Type 'Flash.bat' to launch the BIOS updates process.
7. Reboot the system once complete.
8. Enter the BIOS Setup and Ensure to load the BIOS default settings to ensure system compatibility and stability. Select the Load Optimized Defaults item under the Exit menu.

***IMPORTANT: DO NOT shutdown or reset the system while updating the BIOS!
Doing so may cause system boot failure!***

4.3.3 BIOS Update Instructions using EZ-Flash Method

For this method you will require a Flash USB device and required BIOS file.

1. Insert the USB flash disk that contains the latest BIOS file to the USB port.
2. Enter the **Advanced Mode** of the BIOS setup program. Go to the **Tool** menu to select **ASUS EZ Flash Utility** and press <Enter> to enable it.
3. Press <Tab> to switch to the **Drive** field.
4. Press the Up/Down arrow keys to find the USB flash disk that contains the latest BIOS, and then press <Enter>.
5. Press <Tab> to switch to the **Folder Info** field.
6. Press the Up/Down arrow keys to find the BIOS file, and then press <Enter> to perform the BIOS update process. Reboot the system when the update process is done.

Note: This function supports USB flash disks formatted using FAT32/16 on a single partition only.

Note: Ensure to load the BIOS default settings to ensure system compatibility and stability. Select the Load Optimized Defaults item under the Exit menu.

IMPORTANT!

During the update process DO NOT shut down the PC or interrupt the process, this could cause damage to the motherboard.

4.3.4 Recovering the BIOS - CrashFree BIOS 3

The CrashFree BIOS 3 is an auto recovery tool that allows you to restore the BIOS file when it fails or gets corrupted during the updating process. You can restore a corrupted BIOS file using the motherboard support DVD or a USB flash drive that contains the updated BIOS file.

Before using this utility, rename the BIOS file in the removable device to:

H110TP.CAP

To recover the BIOS:

1. Turn on the system.
2. Insert the support DVD to the optical drive or the USB flash drive that contains the BIOS file to the USB port.
3. The utility automatically checks the devices for the BIOS file. When found, the utility reads the BIOS file and enters ASUS EZ Flash 2 utility automatically.
4. The system requires you to enter BIOS Setup to recover BIOS settings. To ensure system compatibility and stability, we recommend that you press <F5> to load default BIOS values.

***IMPORTANT: DO NOT shut down or reset the system while updating the BIOS!
Doing so can cause system boot failure!***

4.4 BIOS Setup Program

This chapter provides basic information on the BIOS Setup program and allows you to configure the system for optimum use. You may need to run the Setup program when:

- An error message appears on the screen during the system booting up, and requests you to run BIOS SETUP.
- You want to change the default settings for customized features.

Note: *The items under each BIOS category described in this chapter are under continuous update for better system performance. Therefore, the description may be slightly different from the latest BIOS and should be held for reference only.*

4.4.1 Entering BIOS Setup

Power on the computer and the system will start POST (Power On Self Test) process. When the message below appears on the screen, press <F2> or key to enter Setup. You can also press <F8> when the message below is on screen to bring up the Boot Menu.

“Press or <F2> to enter BIOS setup Menu”

If the message disappears before you respond and you still wish to enter Setup, restart the system by turning it OFF and On or pressing the RESET button. You may also restart the system by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys.

Control Keys

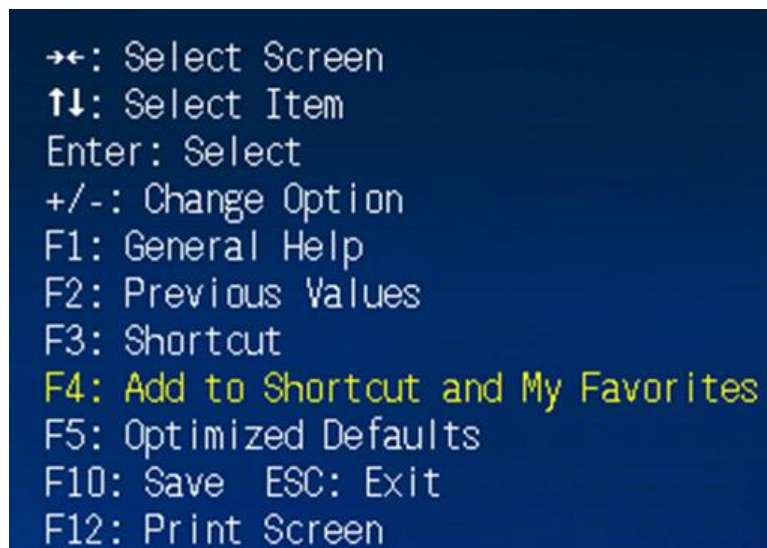


Figure 122: BIOS control keys

After entering the BIOS, the first screen you will see is the Main Menu – EZ Mode.

BIOS Menu Screen

The BIOS setup program can be used under two modes: **EZ Mode** and **Advanced Mode**. You can change modes from the **Exit** menu or from the Exit/Advanced Mode button in the EZ Mode/Advanced Mode screen.

4.4.2 EZ Mode***

By default, the EZ Mode screen appears when you enter the BIOS setup program. The EZ Mode provides you an overview of the basic system information, and allows you to select the display language, system performance mode and boot device priority. To access the Advanced Mode, click Exit/Advanced Mode, then select Advanced Mode or press F7 for the advanced BIOS settings.



Figure 13: Bios Menu - EZ Mode

- The boot device options vary depending on the devices you installed to the system.
- The **Boot Menu (F8)** button is available only when the boot device is installed to the system.

4.5 Advanced Mode

The Advanced Mode provides advanced options for experienced end-users to configure the BIOS settings. The figure below shows an example of the Advanced Mode. Refer to the following sections for the detailed configurations.

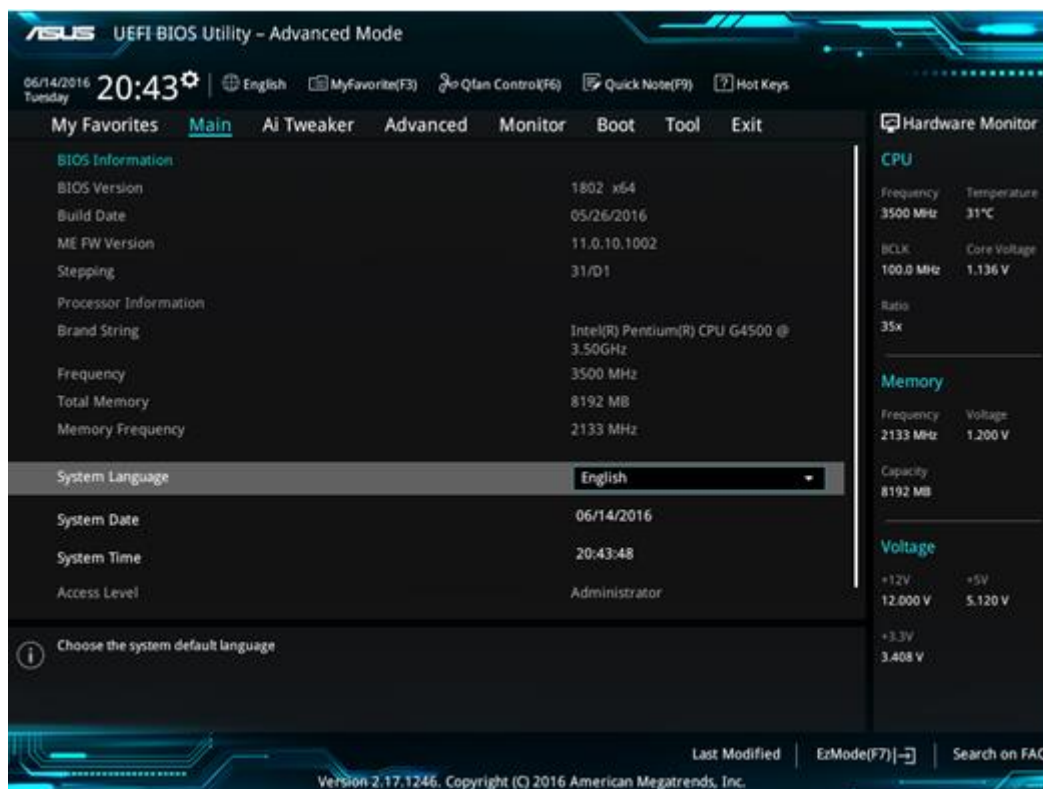


Figure 134: BIOS Main Menu – Advanced Mode

BIOS Main Menu selection

The menu bar on top of the screen has the following main items:

My Favorites	For saving the frequently-used system settings and configuration
Main	For changing the basic system configuration
Ai Tweaker	For changing the overclocking settings
Advanced	For changing the advanced system settings
Monitor	For displaying the system temperature, power status, and changing the fan settings
Boot	For changing the system boot configuration
Tool	For configuring options for special functions
Exit	For selecting the exit options and loading default settings

Table 8: BIOS Menu Bar Items

Menu items

The highlighted item on the menu bar displays the specific items for that menu. For example, selecting Main shows the Main menu items.

The other items (Ai Tweaker, Advanced, Monitor, Boot, Tool, and Exit) on the menu bar have their respective menu items.

4.5.1 My Favourites

My Favourites is your personal space where you can easily save and access your favourite BIOS items.

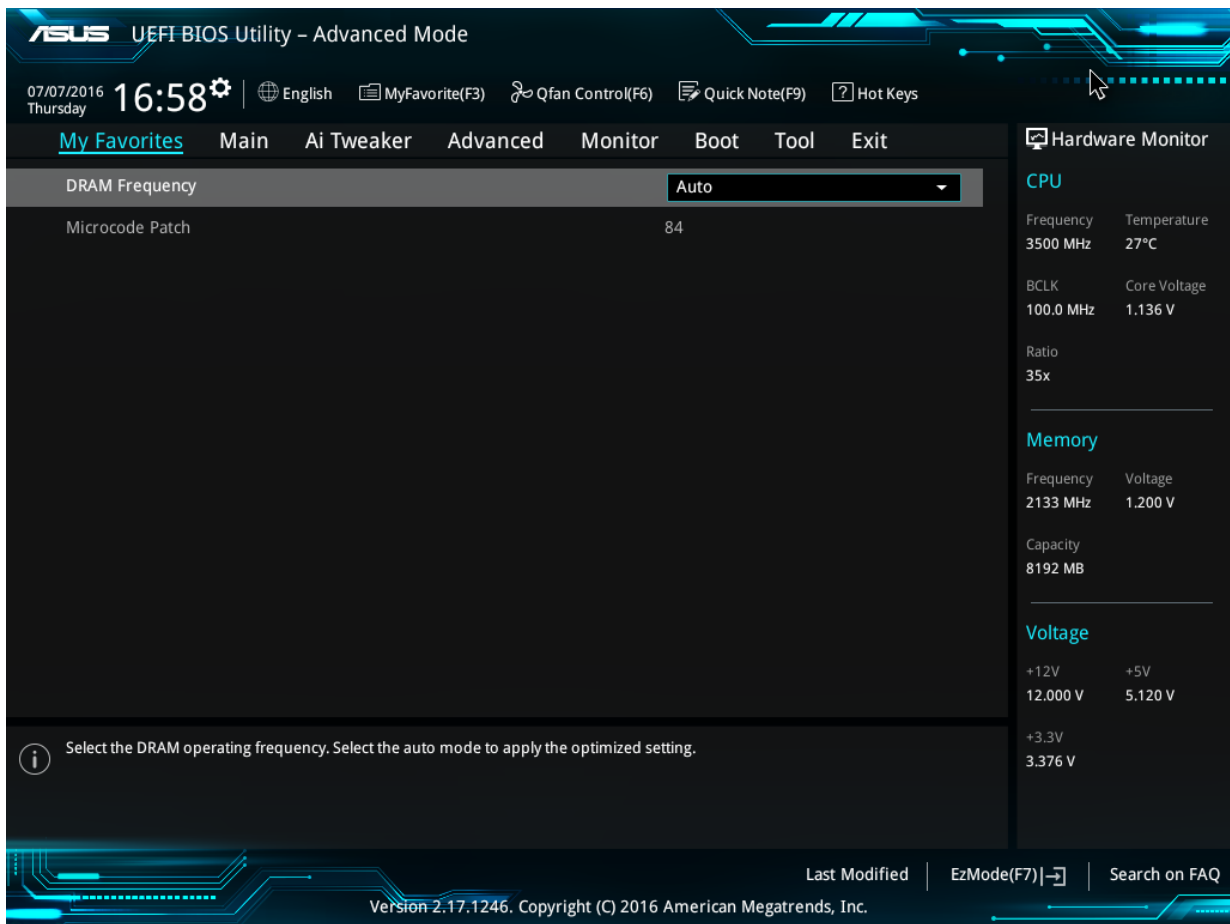


Figure 15: My Favourites Menu

4.5.2 Main Menu

The Main menu screen appears when you enter the Advanced Mode of the BIOS Setup program. The Main menu provides you an overview of the basic system information, and allows you to set the system date, time, language, and security settings.

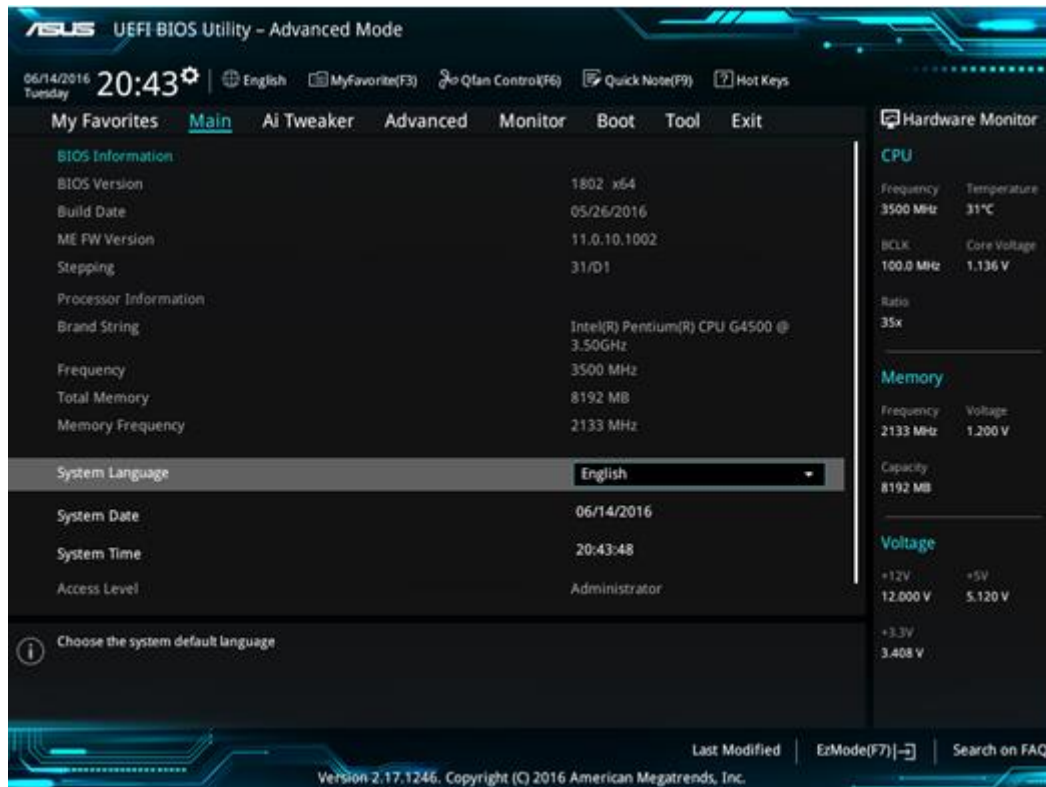


Figure 146: Main Menu

4.5.2.1 System Language [English]

Allows you to choose the BIOS language version from the options.

4.5.2.2 System Date [DD/MM/YYYY]

Allows you to set the system date.

4.5.2.3 System Time [HH:MM:SS]

Allows you to set the system time.

4.5.2.4 Security

The Security menu items allow you to change the system security settings.

- If you have forgotten your BIOS password, erase the CMOS Real Time Clock (RTC) RAM to clear the BIOS password.
- The **Administrator** or **User Password** items on top of the screen show the default **Not Installed**. After you set a password, these items show **Installed**.

Administrator Password

If you have set an administrator password, we recommend that you enter the administrator password for accessing the system. Otherwise, you might be able to see or change only selected fields in the BIOS setup program.

To set an administrator password:

1. Select the **Administrator Password** item and press <Enter>.
2. From the **Create New Password** box, key in a password, then press <Enter>.
3. Confirm the password when prompted.

To change an administrator password:

1. Select the **Administrator Password** item and press <Enter>.
2. From the **Enter Current Password** box, key in the current password, then press <Enter>.
3. From the **Create New Password** box, key in a new password, then press <Enter> Confirm the password when prompted.

To clear the administrator password, follow the same steps as in changing an administrator password, but press <Enter> when prompted to create/confirm the password. After you clear the password, the **Administrator Password** item on top of the screen shows **Not Installed**.

User Password

If you have set a user password, you must enter the user password for accessing the system. The **User Password** item on top of the screen shows the default **Not Installed**. After you set a password, this item shows **Installed**.

To set a user password:

1. Select the **User Password** item and press <Enter>.
2. From the **Create New Password** box, key in a password, then press <Enter>.
3. Confirm the password when prompted.

To change a user password:

1. Select the **User Password** item and press <Enter>.
2. From the **Enter Current Password** box, key in the current password, then press <Enter>.
3. From the **Create New Password** box, key in a new password, then press <Enter>.
4. Confirm the password when prompted.

To clear the user password, follow the same steps as in changing a user password, but press <Enter> when prompted to create/confirm the password. After you clear the password, the **User Password** item on top of the screen shows **Not Installed**.

4.5.3 Ai Tweaker menu

The Ai Tweaker menu items allow you to configure overclocking-related items.

Be cautious when changing the settings of the Ai Tweaker menu items. Incorrect field values can cause the system to malfunction.

The configuration options for this section vary depending on the CPU and SO-DIMM model installed on the motherboard.

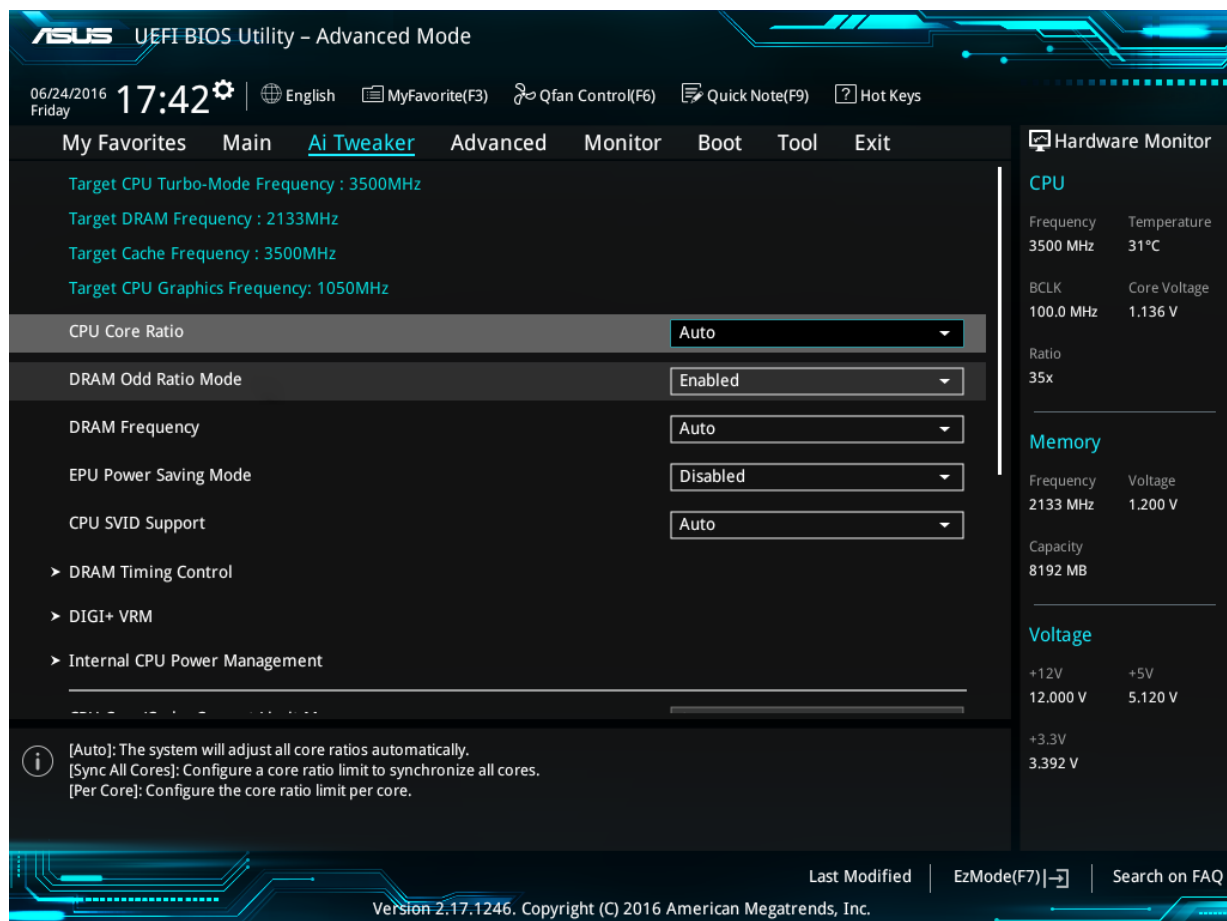


Figure 17: Ai Tweaker Menu

4.5.4 Advanced Menu Screen

The Advanced menu items allow you to change the settings for the CPU and other system devices.

NOTE: Be cautious when changing the settings of the advanced menu items. Incorrect field values can cause the system to malfunction.

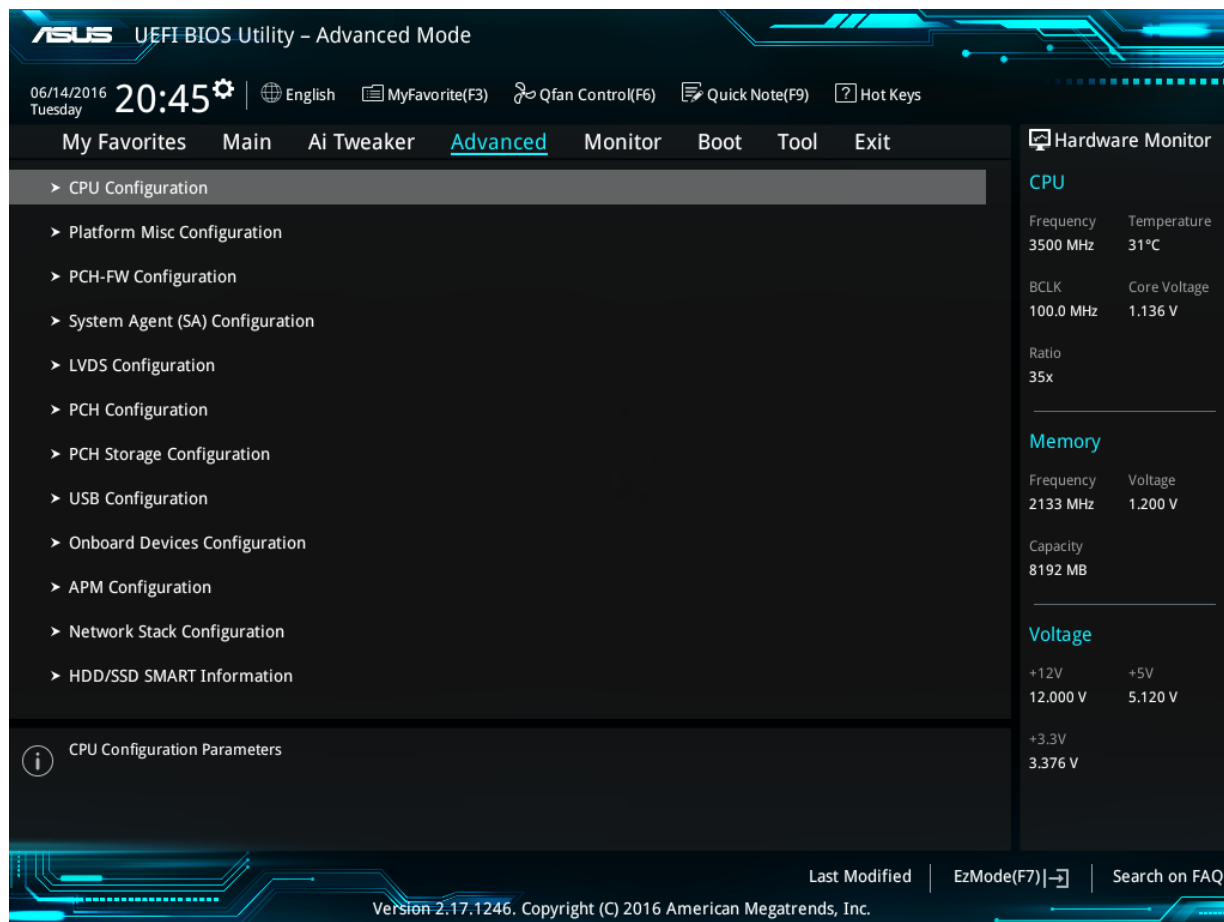


Figure 18: Advanced Sub Menu Screen

4.5.4.1 CPU Configuration

The items in this menu show the CPU-related information that the BIOS automatically detects.

The items shown in submenu may be different due to the CPU you installed.

Active Processor Cores [All]

Allows you to choose the number of CPU cores to activate in each processor package.

Configuration options: [All] [1]

Intel® Virtualization Technology [Enabled]

This item utilises hardware capabilities provided by Vanderpool Technology.

[Disabled] Disables this function.

[Enabled] Allows a hardware platform to run multiple operating systems separately and simultaneously, enabling one system to virtually function as several systems.

Hardware Prefetcher [Enabled]

This item turns on/off the MLC streamer prefetcher.

[Disabled] Disables this function.

[Enabled] Allows a hardware platform to automatically analyse the requirements and prefetch data and codes for the CPU.

Adjacent Cache Line Prefetch [Enabled]

This item turns on/off prefetching of adjacent cache lines.

[Disabled] Disables this function.

[Enabled] Allows a hardware platform to perform adjacent cache line prefetching.

4.5.4.1.1 CPU Power Management Configuration

This item allows you to manage and configure the CPU's power.

Intel® SpeedStep(tm) [Enabled]

Allows more than two frequency ranges to be supported.

[Auto] Automated speed configuration.

[Disabled] The CPU runs at its default speed.

[Enabled] The operating system controls the CPU speed.

CPU C states [Auto]

Enable or disable CPU C states.

[Auto] Automatic configuration.

[Enabled] Enables the CPU C states.

[Disabled] Disables the CPU C states.

CFG lock [Disabled]

Configures MSR 0Xe2[15], CFG lock bit.

[Enabled] Enables CFG lock on CPU C states.

[Disabled] Disables CFG lock on CPU C states.

4.5.4.2 Platform Misc Configuration

The items in this menu allow you to configure the Platform Misc.

PCI Express Native Power Management [Disabled]

Allows you to enhance the power saving feature of PCI Express and perform ASPM operations in the operating system when enabled.

Configuration options: [Disabled] [Enabled]

DMI Link ASPM Control [Disabled]

Allows you to control the Active State Power Management on SA side of the DMI Link.

Configuration options: [Disabled] [Enabled]

ASPM Support [Disabled]

Allows you to set the ASPM level.

Configuration options: [Disabled] [L0s] [L1] [L0sL1] [Auto]

DMI Link ASPM Control [Disabled]

Allows you to enable or disable the control of Active State Power Management on SA side of the DMI Link.

Configuration options: [Disabled] [L1]

4.5.4.3 PCH-FW Configuration

While entering Setup, the BIOS automatically detects the presence of devices.

TPM Device Selection [Discrete TPM]

Allows you to manage the functionality of TPM device.

Configuration options: [Discrete TPM] [Firmware TPM]

4.5.4.4 System Agent (SA) Configuration

This item allows you to configure graphical, DMI and internal memory settings.

VT-d [Enabled]

Allows you to enable virtualization technology capability on memory control hub.

[Enabled] Enables the function.

[Disabled] Disables this function.

4.5.4.4.1 Graphics Configuration

Allows you to select a primary display from iGPU and PCIe graphical devices.

RC6(Render Standby) [Auto]

Allows you to enable or disable Intel® Graphics Render Standby support to reduce iGPU power use when the system is idle.

Configuration options: [Disabled] [Auto]

DVMT Pre-Allocated [32M]

Allows you to select the amount of DVMT5.0 fixed graphics memory size used by the internal graphics device.

Configuration options: [32M] [64M] [96M] [128M] [160M] [192M] [224M] [256M] [288M][320M] [352M] [384M] [416M] [448M] [480M] [512M] [1024M]

4.5.4.4.2 DMI/OPI Configuration

Allows you to control various DMI and OPI functions.

DMI Max Link Speed [Auto]

Allows you to set DMI speed for Gen1/Gen2.

Configuration options: [Auto] [Gen1][Gen2]

4.5.4.4.3 Memory Configuration

Controls functionality of system memory.

Memory Remap [Enabled]

Allows you to enable or disable remapping the memory above 4GB.

[Enabled] Enables the function.

[Disabled] Disables this function.

4.5.4.5 LVDS Configuration

Allows you to control various functions of connected LVDS port.

All-in-One Chassis [Wibtek A21 (21.5"x22")]

Allows you to setup simplified AIO configuration, if applicable.

Configuration options: [None] [ECS (21.5"x22")] [Mitac Maestro (21.5"x22")] [Gigabyte (18.5"x22")] [LP-215x (21.5"x22")] [Wibtek A21 (21.5"x22")] [Wibtek A23 (23.6"x22")] [Jumper Sail (21.5"x22")] [Pixxo HP-A206D (21.5"x22")] [22AM33NB (21.5"x22")] [3NOD (21.5"x22")] [AUO (19.5"x22")]

EDID Data Source [Pre-Defined]

Allows you to define Extended Display Identification Data source.

Configuration options: [Pre-Defined] [Flat Panel Display]

Pre-Defined LVDS Panel Type [1920x1080 LVDS]

Allows you to configure the correct resolution for the LVDS panel used by the internal graphics device.

Configuration options: [Default] [640x480] [800x600] [1024x768] [1280x1024] [1400x1050(RB) LVDS1] [1400x1050 LVDS2] [1600x1200 LVDS] [1366x768 LVDS] [1680x150] [1920x1200] [1440x900 LVDS] [1600x900 LVDS] [1024x768 LVDS] [1280x800] [1920x1080 LVDS] [2048x1536 LVDS]

Inverter Polarity [Inverted]

Allows you to set inverter board polarity on LVDS panel.

Configuration options: [Inverted] [Normal]

Screen Brightness [Brightest]

Allows you to configure the brightness of LVDS panel.

Configuration options: [Dimmest] [Dimmer] [Dim] [Neutral] [Bright] [Brighter] [Brightest]

Channel Select [Dual Channel]

Allows you to select number of channels.

Configuration options: [Dual Channel] [Single Channel]

Mode Select [8bit Mode(VESA)]

Allows you to select the correct mode.

Configuration options: [8bit Mode(JEIDA)] [8bit Mode(VESA)] [8bit Mode(VESA and JEIDA)]

Panel Power Sequence Control [Enabled]

Allows you to configure control on panel power sequence.

Configuration options: [Enabled] [Disabled]

Panel_Vcc ON to Video_Data ON (T8) [20ms]

Configuration options: [10ms] [20ms] [30ms] [40ms]

Video_Data ON to BKLT_PWM ON (T9) [250ms]

Configuration options: [100ms] [200ms] [250ms] [300ms]

BKLT_PWM ON to BKLT_Enable ON (T10) [15ms]

Configuration options: [10ms] [15ms] [20ms] [25ms]

BKLT_Enable OFF to BKLT_PWM OFF (T11) [10ms]

Configuration options: [5ms] [10ms] [15ms] [20ms]

BKLT_PWM OFF to Video_Data OFF (T12) [250ms]

Configuration options: [100ms] [200ms] [250ms] [300ms]

Video_Data OFF to Panel_Vcc OFF (T13) [20ms]

Configuration options: [10ms] [20ms] [30ms] [40ms]

Min Panel_Vcc OFF Time (T15) [600ms]

Configuration options: [600ms] [700ms] [800ms] [1000ms]

LVDS Spread Spectrum Control [Disabled]

Configures LVDS spread spectrum clocking.

Configuration options: [Disabled] [+/- 0.5%% Center Spread] [+/- 1%% Center Spread]

4.5.4.6 PCH Configuration

Allows you to configure PCH settings.

IOAPIC 24-119 Entries [Enabled]

Allows you to configure the I/O Advanced Programmable Interrupt Controller entries to expand to PIRQI-PIRQX.

Configuration options: [Disabled] [Enabled]

4.5.4.7 PCH Storage Configuration

Allows you to configure PCH storage settings.

Hyper kit Mode [Disabled]

Allows you to alter support for onboard storage devices. Disable for M.2 devices.

Configuration options: [Disabled] [Enabled]

SATA Controller(s) [Enabled]

Allows you to enable or disable SATA devices.

Configuration options: [Enabled] [Disabled]

Aggressive LPM Support [Disabled]

Allows system to aggressively enter link power state.

Configuration options: [Enabled] [Disabled]

Smart Self Test [On]

Run SMART Self Test on HDDs during POST.

Configuration options: [On] [Off]

SATA6G_1(Gray) [Enabled]

Allows you to configure SATA port 1.

Configuration options: [Enabled] [Disabled]

Hot Plug [Disabled]

Allows you to designate port as hot pluggable.
Configuration options: [Enabled] [Disabled]

SATA6G_2(Gray) [Enabled]

Allows you to configure hot plug for SATA port 2.
Configuration options: [Enabled] [Disabled]

Hot Plug [Disabled]

Allows you to designate port as hot pluggable.
Configuration options: [Enabled] [Disabled]

M.2(SATA) [Enabled]

Allows you to configure M.2 SATA port.
Configuration options: [Enabled] [Disabled]

4.5.4.8 USB Configuration

The items in this menu allow you to change the USB-related features.

Legacy USB Support [Enabled]

This item enables legacy USB support.

[Disabled] The USB devices can be used only for the BIOS setup program and EFI applications.

[Enabled] Enables the support for USB devices on legacy OS.

[Auto] Allows the system to detect the presence of USB devices at start up. If detected, the USB controller legacy mode is enabled. If no USB device is detected, the legacy USB support is disabled.

XHCI Hand-off [Disabled]

Works around OSeS that do not have XHCI hand-off support.

[Enabled] Enables the support for operating systems without an xHCI hand-off feature.

[Disabled] Disables the function.

4.5.4.9 Onboard Devices Configuration

The items in this menu allow you to control onboard devices.

HD Audio Controller [Enabled]

This item allows you to configure the onboard Azalia HD audio device.

[Enabled] Enables the HD audio device.

[Disabled] Disables the HD audio device.

Wi-Fi Controller [Enabled]

This item allows you to configure the Wi-Fi device.

[Enabled] Enables the Wi-Fi device.

[Disabled] Disables the Wi-Fi device.

Bluetooth Controller [Enabled]

This item allows you to configure the Bluetooth device.

[Enabled] Enables the Bluetooth Device.
[Disabled] Disables the Bluetooth Device.

Realtek LAN Controller [On]

This item allows you to control onboard Realtek LAN.

Configuration options: [On][Off]

Realtek PXE OPROM [Off]

This item appears only when you enable the Realtek LAN controller and allows you to launch the PXE OptionRom of the Realtek LAN controller.

Configuration options: [On][Off]

Intel LAN Controller [On]

This item allows you to control onboard Intel GbE controller.

Configuration options: [Disabled] [Enabled]

Intel PXE OPROM [Off]

This item appears only when you enable the Intel LAN controller and allows you to launch the PXE OptionRom of the Intel LAN controller.

Configuration options: [On][Off]

Charging USB devices in Power State S5 [Disabled]

This item allows you to charge USB devices when the system is in shut down mode.

Configuration options: [Enabled][Disabled]

4.5.4.9.1 Serial Port Configuration

The items in this sub-menu allow you to set the serial port configuration.

Serial Port [On]

Allows you to turn on or turn off the serial port (COM).

Configuration options: [On][Off]

Change Settings [IO=3F8h; IRQ=4]

This item appears only when you set the **Serial Port** to [Enabled] and allows you to select the Serial Port base address.

Configuration options: [IO=3F8h; IRQ=4] [IO=2F8h; IRQ=3] [IO=3E8h; IRQ=4]
[IO=2E8h; IRQ=3]

4.5.4.10 APM Configuration

The items in this menu allow you to manage power features on an advanced level.

ErP Ready [Disabled]

This item allows a certain amount of power to be turned off at S4/S5 system states, to get system ready for ErP requirement.

[Disabled] Power will not be turned off at these system states.
[Enable(S4+S5)] Power will be turned on at both system states.
[Enable(S5)] Power will be turned on at S5 system state.

Restore AC Power Loss [Power Off]

This item controls system behaviour when AC power is lost.

[Power On] The system goes into on state after an AC power loss.

[Power Off] The system goes into off state after an AC power loss.

[Last State] The system goes into either off or on state, whatever the system state was before the AC power loss.

Power On By PCIE/PCI [Enabled]

This item controls PCIE/PCI device for wake-on-LAN behaviour.

[Enabled] Enables the PCIE/PCI devices to generate a wake-on-LAN feature of the Intel®/Realtek LAN device.

[Disabled] Disables the PCIE/PCI devices to generate a wake-on-LAN feature of the Intel®/Realtek LAN device.

Power On By Ring [Disabled]

This item controls the Ring for wake-on-LAN behaviour.

[Enabled] Enables Ring to generate a wake event.

[Disabled] Disables Ring to generate a wake event.

Power On By RTC [Disabled]

This item controls the RTC alarm behaviour.

[Enabled] When enabled, the items RTC Alarm Date (Days) and Hour/Minute/Second will become user-configurable with set values.

[Disabled] Disables RTC to generate a wake event.

4.5.4.11 Network Stack

The items in this menu allow you to manage network stack settings.

Network Stack [Enabled]

This item allows user to enable or disable the UEFI network stack.

Configuration options: [Enabled] [Disabled]

- The following two items appear only when you set Network Stack to [Enabled].

Ipv4 PXE Support [Enabled]

This item allows user to disable or enable the Ipv4 PXE Boot support.

Configuration options: [Enabled] [Disabled]

Ipv6 PXE Support [Enabled]

This item allows user to disable or enable the Ipv6 PXE Boot support.

Configuration options: [Enabled] [Disabled]

4.5.4.12 HDD/SSD SMART Information

The items in this menu allow you to view storage device information.

Device [<Device Name>]

This item allows you to display a device's SMART information.

Configuration options: [<Device Name>]

4.5.4.13 Intel(R) Ethernet Connection (H) I219-V – 34:97:F6:87:F2:D6

The items in this menu allow you to configure Intel(R) Ethernet settings.

4.5.4.13.1 NIC Configuration

The items in this menu allow you to configure network agent settings.

Link Speed [Auto Negotiated]

This item allows you to specify port speed for selected boot protocol.

Configuration options: [Auto Negotiated] [10 Mbps Half] [10 Mbps Full]
[100 Mbps Half] [100 Mbps Full]

4.5.5 Monitor Menu

The Monitor menu displays the system temperature/power status, and allows you to change the fan settings.

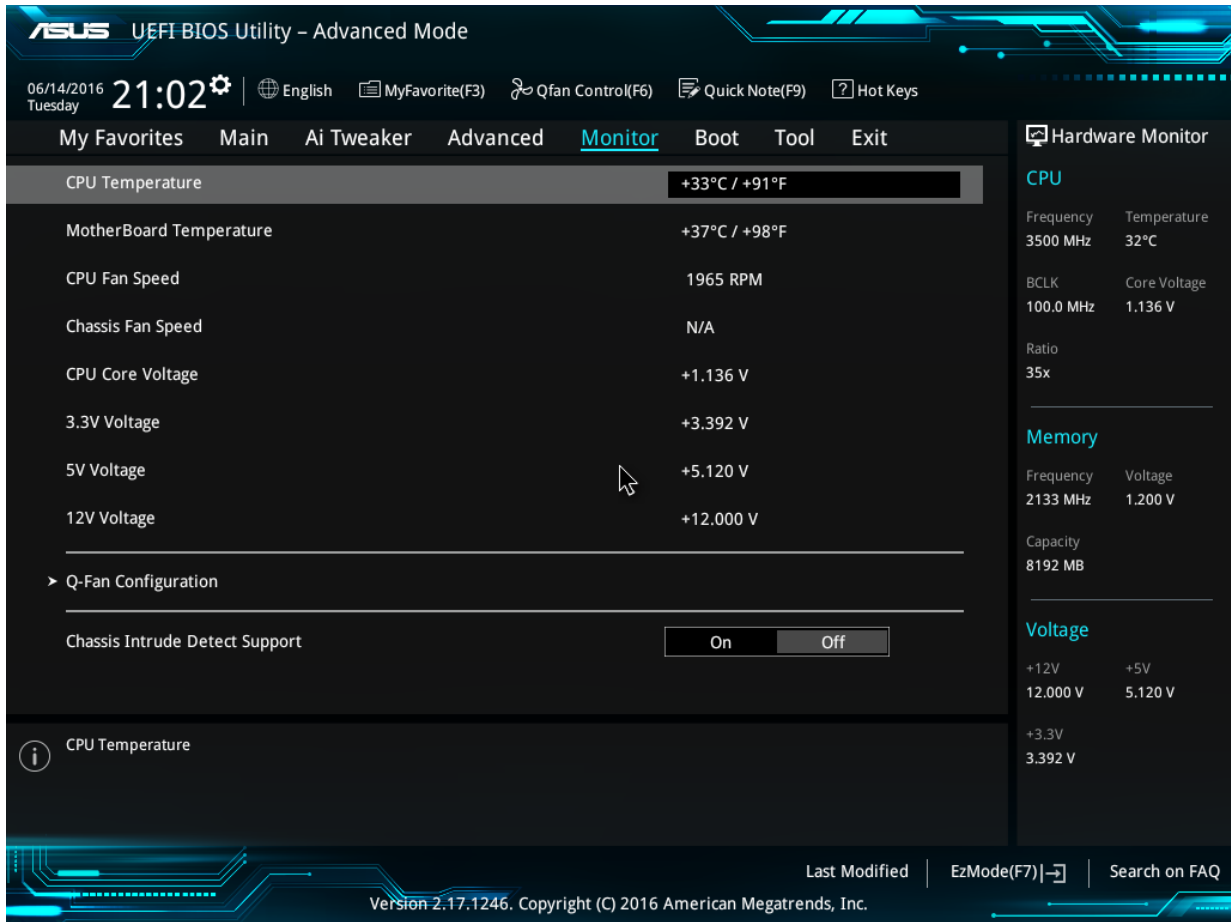


Figure 19: Monitor Menu

4.5.6 Boot Menu

The Boot menu items allow you to change the system boot options.

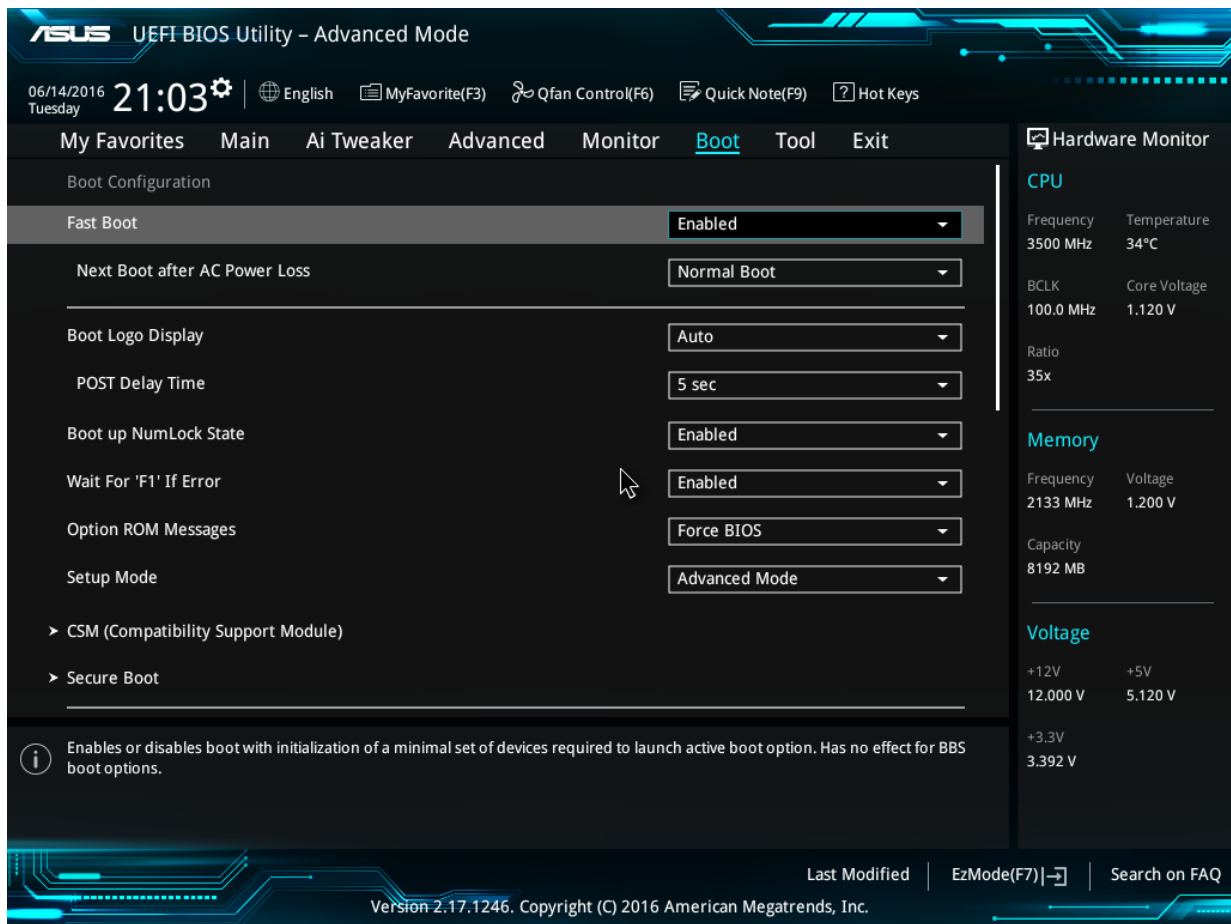


Figure 20: Boot Menu

4.5.7 Tool Menu

The Tool menu items allow you to configure options for special functions. Select an item then press <Enter> to display the submenu.

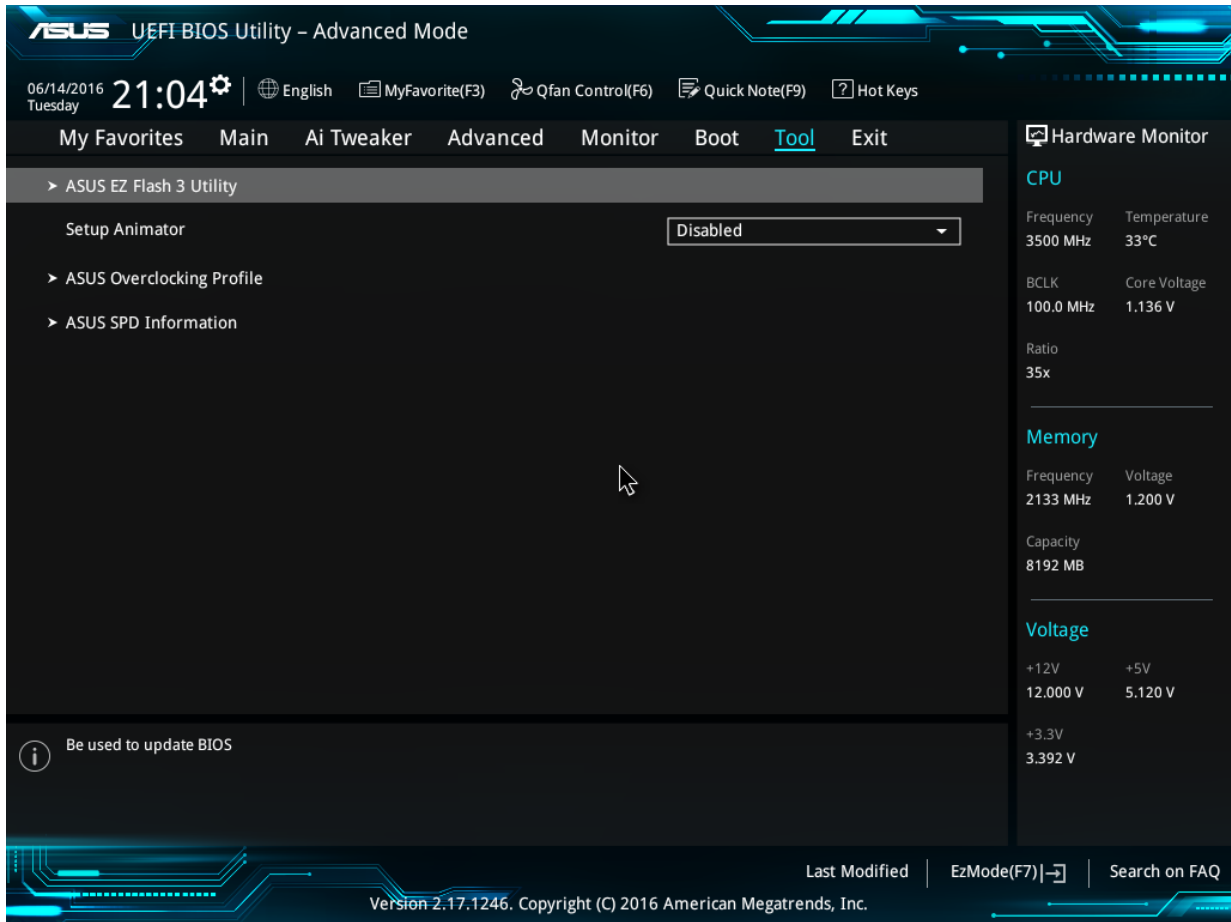


Figure 21: Tool menu

4.5.8 Exit Menu

The Exit menu items allow you to load the optimal default values for the BIOS items, and save or discard your changes to the BIOS items. You can access the EZ Mode from the Exit menu.

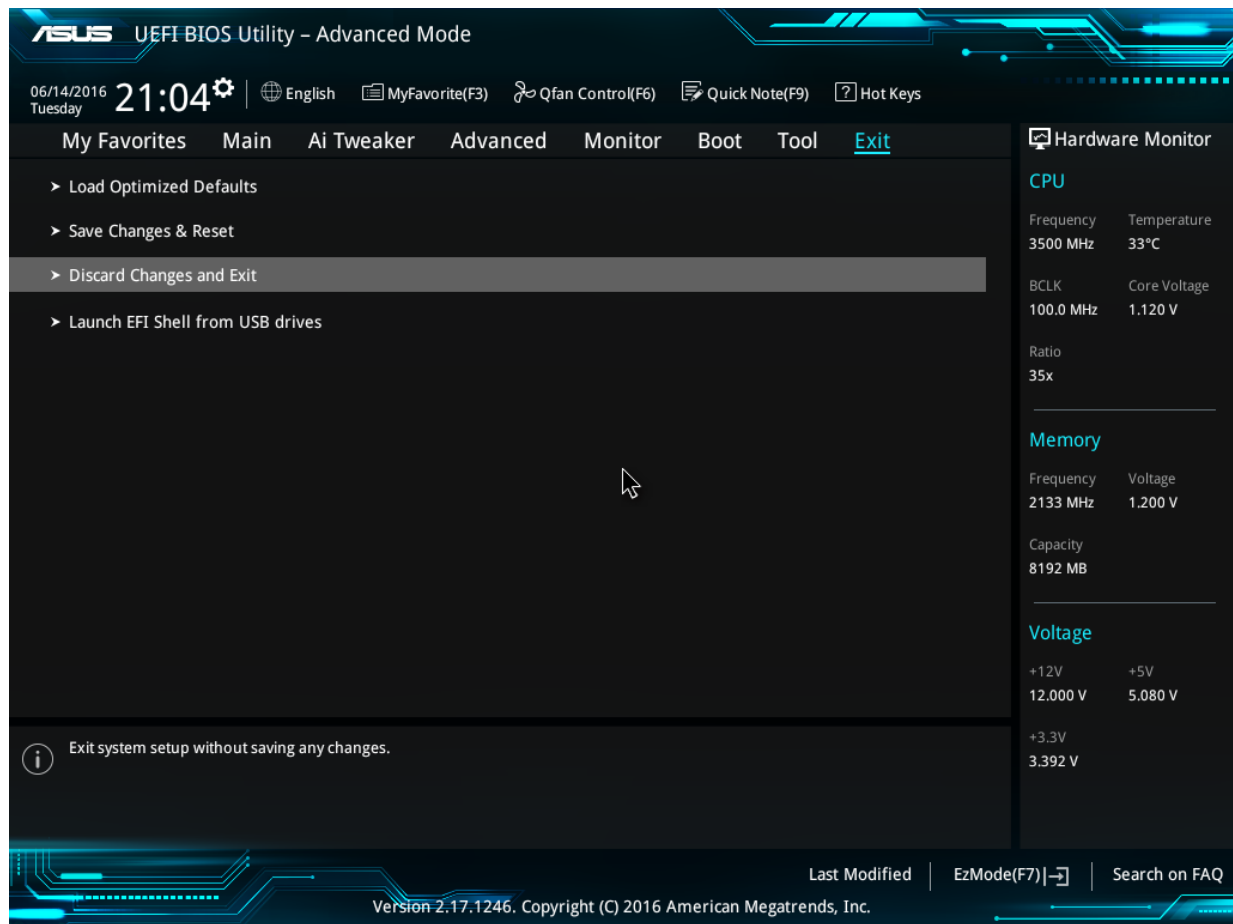


Figure 152: Exit Menu

4.5.8.1 Load Optimized Defaults

This option allows you to load the default values for each of the parameters on the Setup menus. When you select this option or if you press <F5>, a confirmation window appears. Select Yes to load the default values.

4.5.8.2 Save Changes & Reset

Once you are finished making your selections, choose this option from the Exit menu to ensure the values you selected are saved. When you select this option or if you press <F10>, a confirmation window appears. Select Yes to save changes and exit.

4.5.8.3 Discard Changes & Exit

This option allows you to exit the Setup program without saving your changes. When you select this option or if you press <Esc>, a confirmation window appears. Select Yes to discard changes and exit.

4.6 ASUS EZ Mode

This option allows you to enter the EZ Mode screen.

Launch EFI Shell from filesystem device

This option allows you to attempt to launch the EFI Shell application (shellx64.efi) from one of the available devices that have a file system.

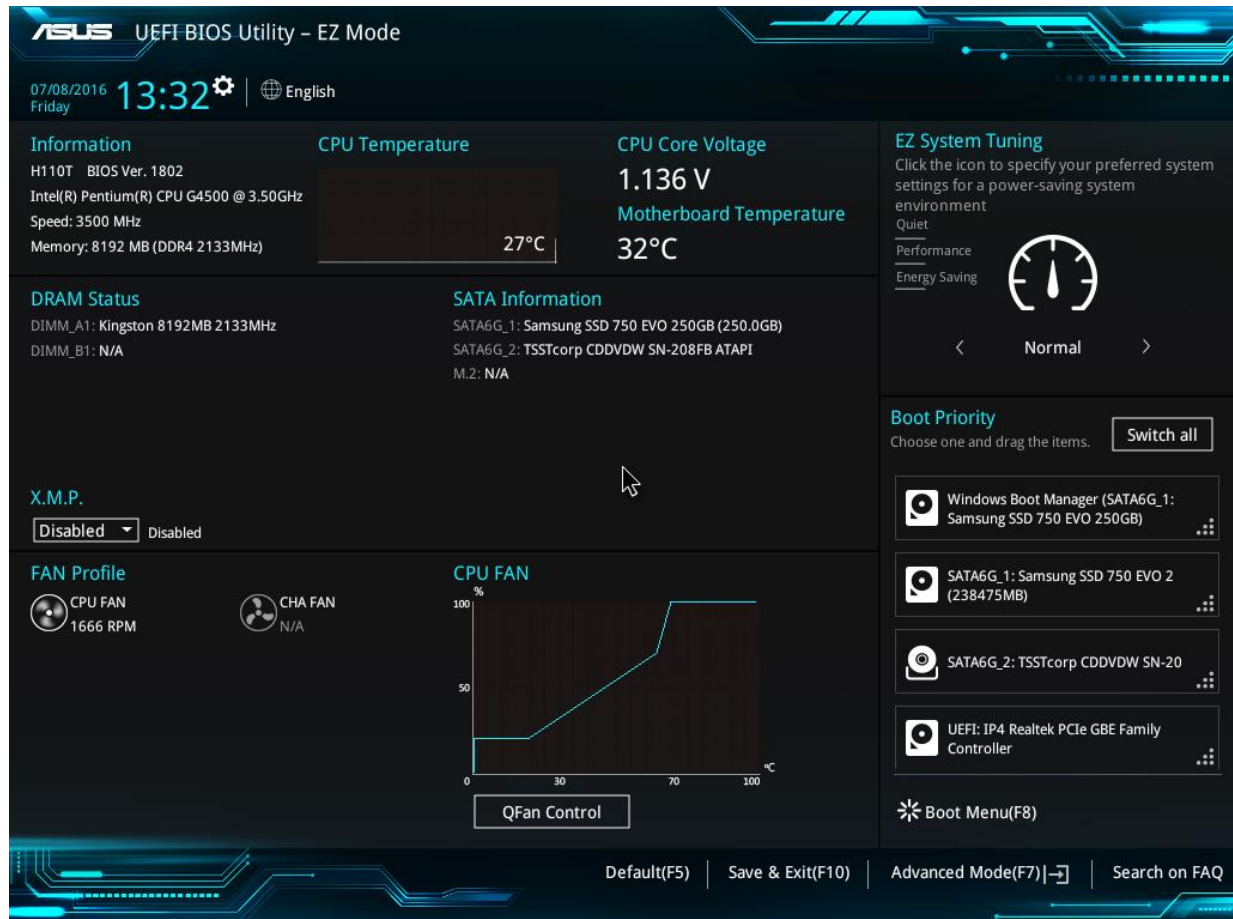


Figure 163: ASUS EZ Mode

BIOS Settings for Windows 7 and Windows 8/8.1 O/S

4.6.1 Windows UEFI mode for Windows 8/8.1

Vig750S system configured with Windows 8/8.1 will have following default BIOS settings. If you wish to downgrade to Windows 7 then BIOS must be configured to Non-UEFI mode.

Boot\CSM (Compatibility Support module)

Launch CSM	[Enabled]
Boot Device Control	[UEFI Only]
Boot from Network Devices	[UEFI drivers first]
Boot from Storage Devices	[UEFI drivers first]

Boot\Secure Boot Menu

OS Type [**Windows UEFI mode**]

Note

Please ensure the changes of the following settings are performed by personnel with some previous experience/knowledge of altering BIOS settings.

4.6.2 Enabling Windows UEFI mode for Windows 8/8.1 Operating System

1. From the BIOS main menu bar select '**Advanced**'
2. Navigate to the **Boot** sub menu
3. Select **CSM (Compatibility Support Module)**

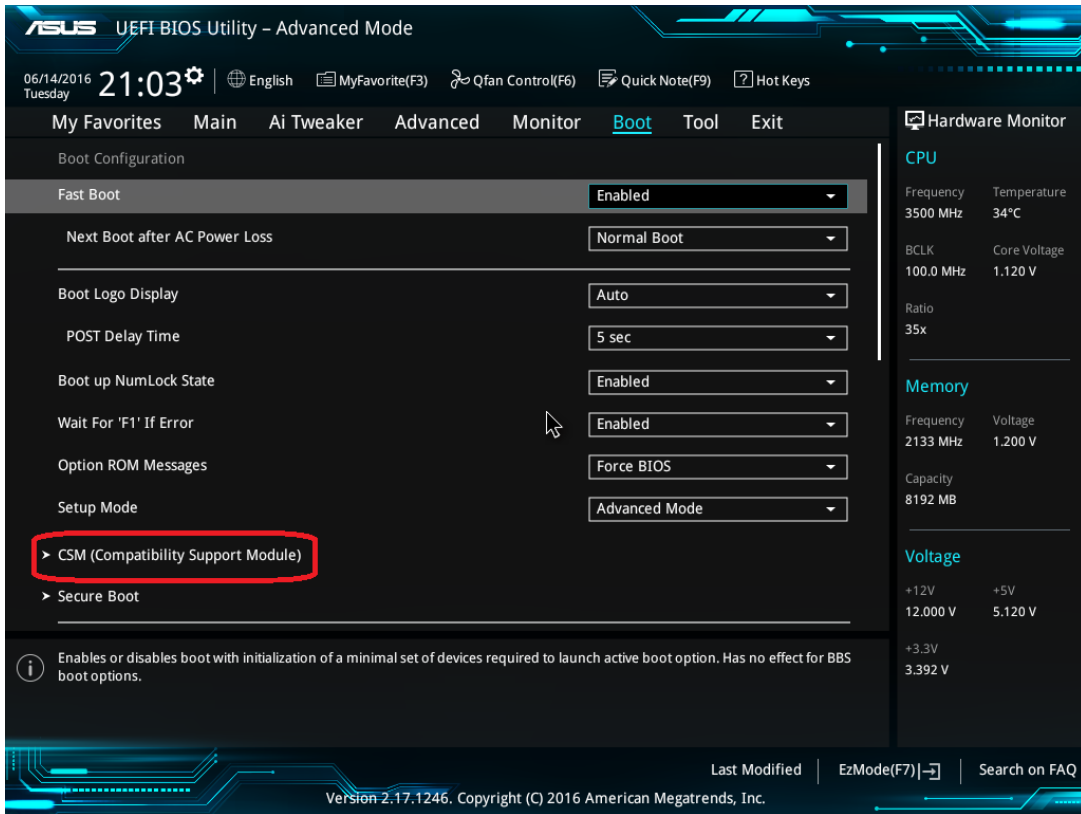


Figure 174: Boot Menu

4. In the CSM (**Compatibility Support Module**) change following settings for Windows 8/8.1.

Launch CSM	[Enabled]
Boot Device Control	[UEFI Only]
Boot from Network Devices	[UEFI drivers first]
Boot from Storage Devices	[UEFI drivers first]

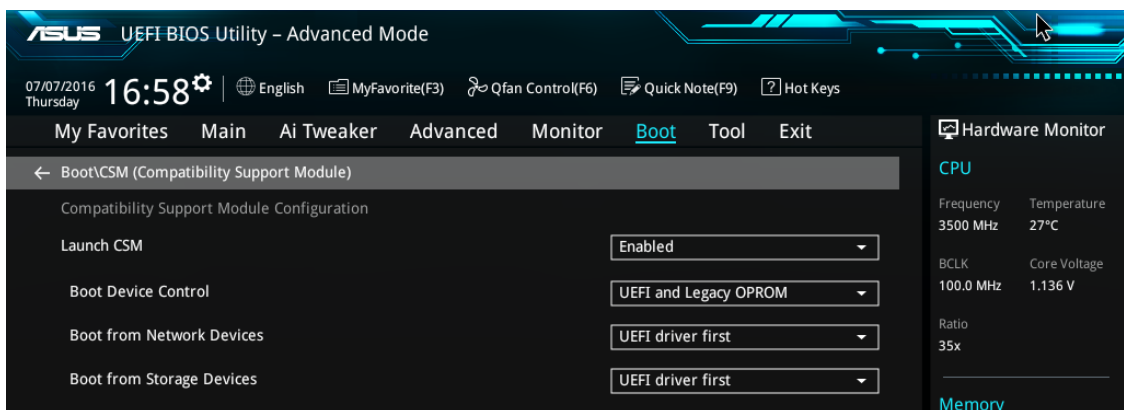


Figure 185: Compatibility Support Module Menu

*Note: When these settings have been changed, press <Esc> or the Back Button to go back to the Boot Sub Menu to enable **Windows UEFI** for secure boot.*

5. Navigate to **Secure Boot** from within the Boot sub menu.
6. Change **OS Type** to **Windows UEFI**.

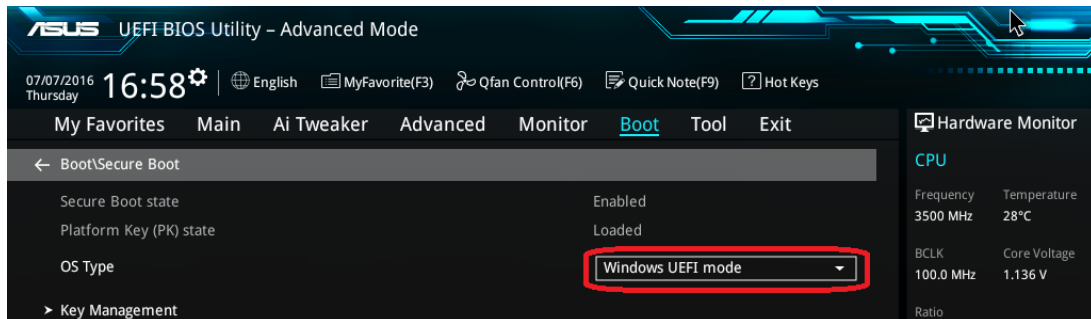


Figure 196: Secure Boot Menu

7. Select **Key Management**.
8. Select **Install default Secure Boot keys** and select **Yes** to proceed.

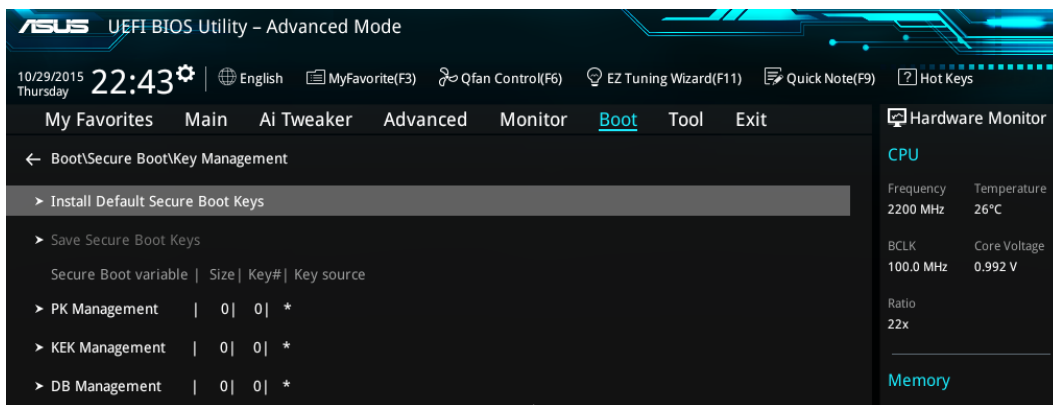


Figure 207: Key Management

9. Press **F10** to Save and exit.

*NOTE: If you need to check changes have been saved go back into BIOS after reboot and navigate into Secure Boot settings. Check that **Secure Boot state is enabled** and **Platform Key (PK) state is Loaded**.*

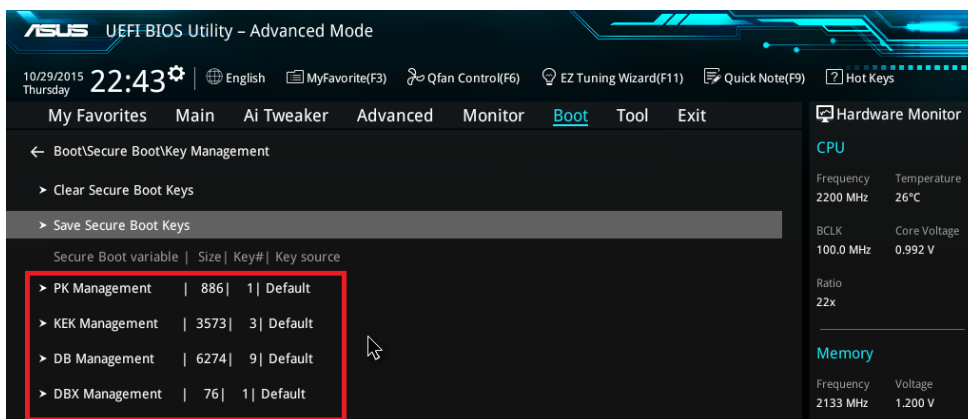


Figure 21: Key Management – key loaded

4.6.3 BIOS Settings for Windows 7 Operating System (Non UEFI Mode)

To downgrade to Windows 7 operating system, BIOS settings must be changed to boot into Legacy BIOS mode (non UEFI Mode).

For Windows 7 operating system BIOS should be configured as per below settings

Boot\CSM (Compatibility Support Module)

Launch CSM	[Enabled]
Boot Device Control	[Legacy OPROM only]
Boot from Network Devices	[Legacy OPROM]
Boot from Storage Devices	[Legacy OPROM]

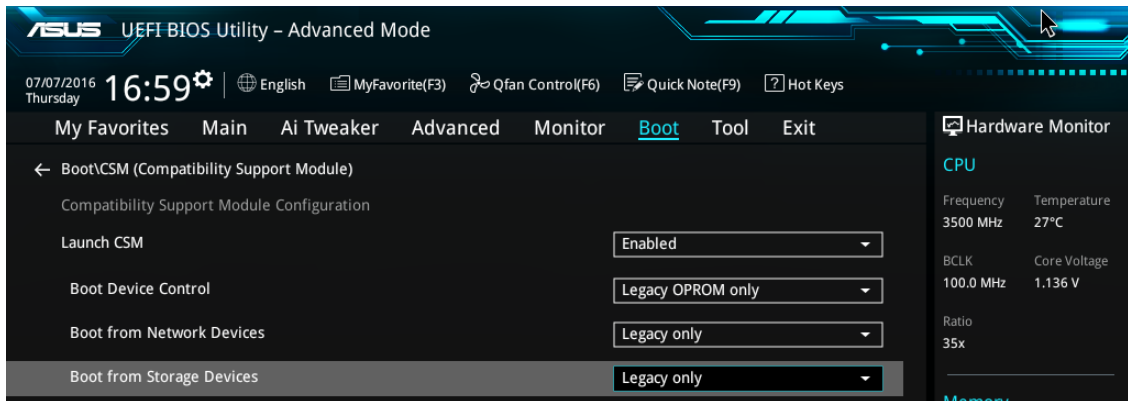


Figure 29: Windows 7 BIOS settings

Boot\Secure Boot Menu OS Type [Other OS]

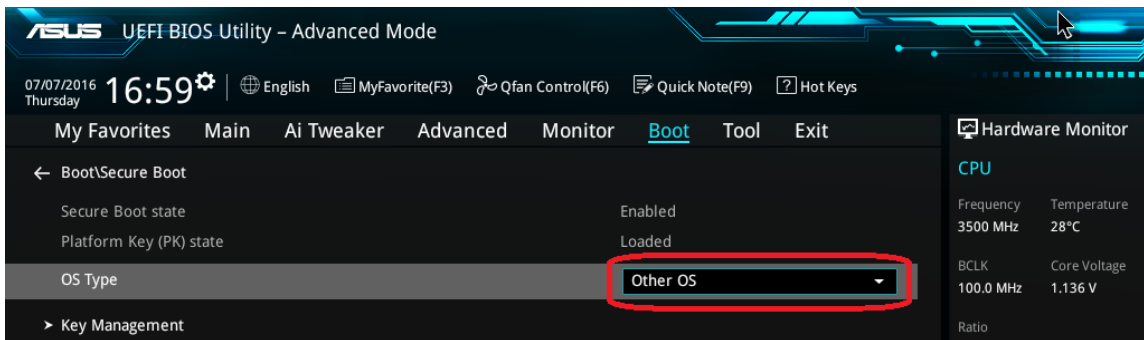


Figure 30: Windows 7 BIOS settings

Chapter 5 : Suggestions

5.1 Questionnaire

XMA is interested in continuing to improve the quality and information provided in their manuals. XMA has listed some questions that you may like to answer and return to Viglen. This will help Viglen help to keep and improve the standard of their manuals.

1. Is the information provided in this and other manuals clear enough?

2. What could be added to the manual to improve it?

3. Does the manual go into enough detail?

4. Would you like an on-line version of this manual?

5. How do you rate the Viglen Technical support and Service Departments?

6. Are there any technological improvements that could be made to the system?

7. Other points you would like to mention?

Please return this slip to: Product Development Dept.
XMA Ltd.
7 Handley Page Way
Colney Street
St Albans
Hertfordshire
AL2 2DQ

