

**imedia S3811  
Service Guide**

PRINTED IN TAIWAN

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## *Revision History*

Please refer to the table below for the updates made on imedia S3811 series guide.

<b>Date</b>	<b>Chapter</b>	<b>Updated</b>

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## *Conventions*

The following conventions are used in this manual:

<b>SCREEN MESSAGES</b>	Denotes actual messages that appear on screen.
<b>NOTE</b>	Gives bits and pieces of additional information related to the current topic.
<b>WARNING</b>	Alerts your to any damage that might result from doing or not doing specific actions.
<b>CAUTION</b>	Gives precautionary measures to avoid possible hardware or software problem.
<b>IMPORTANT</b>	Reminds you to do specific actions relevant to the accomplishment of procedures.

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## *Preface*

Before using this information and the product it supports, please read the following general information.

1. This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office MAY have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.
2. Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

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## Introducing the Motherboard

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### Introduction

Thank you for choosing the H57D02 motherboard. This motherboard is a high performance, enhanced function motherboard designed to support the LGA1156 socket for 2nd Generation Intel® Core™ Family/Pentium®/Celeron® processors for high-end business or personal desktop markets.

This motherboard is based on Intel® H57 Chipset for best desktop platform solution. H57 is a single-chip, highly integrated, high performance Hyper-Threading peripheral controller, unmatched by any other single chip-device controller. This motherboard supports up to 16 GB of system memory with dual channel DDR3 1333/ 1066 SDRAM. Two PCI are supported, fully compliant with PCI rev 2.2 specification at 33MHz. High resolution graphics via PCI Express x16 slot, intended for Graphics Interface, is fully compliant to the PCI Express Base Specification revision 2.0. In addition, one PCI Express slot is supported. It implements an EHCI (Enhanced Host Controller Interface) compliant interface that provides fourteen USB 2.0 ports (six USB 2.0 ports at the back panel and four USB 2.0 headers support additional eight USB 2.0 ports).

The motherboard is equipped with advanced full set of I/O ports in the rear panel, including PS/2 mouse and PS/2 keyboard connectors, one HDMI port, one D\_sub (VGA) port, one Lan port, six USB 2.0 ports, and audio jacks for microphone, line-in and line-out. In addition, this motherboard supports two SATA 6Gb/s connectors .

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## Features

### Operating system

Windows®7 Home Premium x86/x64, Windows® 7 Home Basic x86, Windows®7 Starter x86

### Processor

The motherboard uses an LGA1156 type of socket that carries the following

#### Features:

- I Accommodates 2nd Generation Intel® Core™ Family / Pentium® / Celeron® processors
- I Supports “Hyper-Threading” technology CPU
- I One PCI Express x16 Gen2 port supporting up to 5 GB/s direction peak bandwidth

“Hyper-Threading” technology enables the operating system into thinking it’s hooked up to two processors, allowing two threads to be run in parallel, both on separate “logical” processors within the same physical processor.

### Chipset

The Intel H57 Express Chipset is a single-chip with proven reliability and performance.

- I Support one PCI Express slot
- I Integrated two SATA 3.0 Gb/s Host Controller
- I Fourteen USB 2.0 ports supported
- I Serial Peripheral Interface (SPI) support
- I Integrated Graphics Support with PAVP 1.5
- I • Intel® High Definition Audio Controller

### Memory

- I Supports DDR3 1333/1066 DDR3 SDRAM with Dual-channel architecture
- I Accommodates four unbuffered DIMMs
- I Up to 4 GB per DIMM with maximum memory size up to 16 GB

### Onboard LAN

The onboard LAN provides the following features:

- I Supports PCI Express™ 1.1
- I Integrated 10/100 /1000 transceiver
- I Wake-on-LAN and remote wake-up support

### Audio

- I 5.1 Channel High Definition Audio Codec
- I ADCs support 44.1k/48k/96kHz sample rate
- I Meets Microsoft WLP 3.10 Vista premium and mobile PCs audio requirements
- I Direct Sound 3D™ compatible

### Expansion Options

The motherboard comes with the following expansion options:

- I One PCI Express x16 slot for Graphics Interface
- I One PCI Express x1 slot
- I Two SATA connectors



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## Integrated I/O

The motherboard comes with the following expansion options:

- I Two PS/2 ports for mouse and keyboard
- I One VGA port
- I One HDMI port
- I Six USB ports
- I One LAN port
- I Audio jacks for microphone, line-in and line-out

## BIOS Firmware

The motherboard uses AMI BIOS that enables users to configure many system features including the following:

- I Power management
- I Wake-up alarms
- I CPU parameters
- I CPU and memory timing
- I Graphic parameters

The firmware can also be used to set parameters for different processor clock speeds.

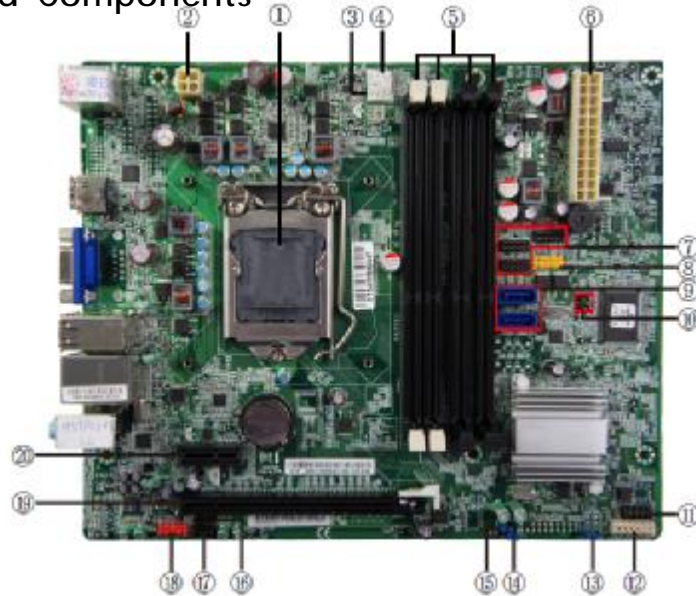


1. *Some hardware specifications and software items are subject to change without prior notice.*
2. *Due to chipset limitation, we recommend that motherboard be operated in the ambience between 0 and 50 ° C.*

## Dimensions and weight

- I 270 (H) x 296(D) x 175(W) mm (without bezel)
- I 7.4Kg

## Mainboard Components

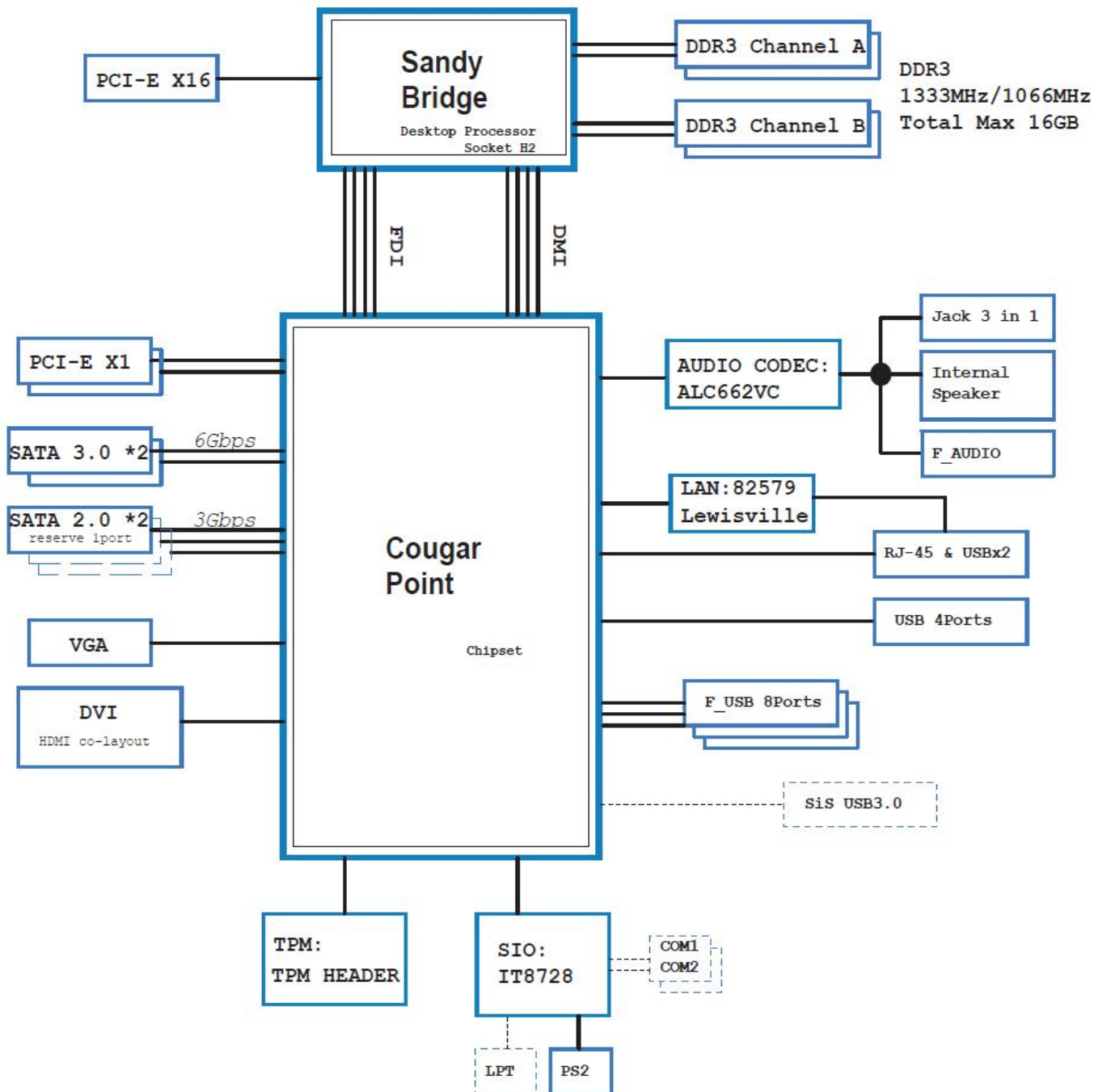


No	Label	Component
1	CPU Socket	LGA1156
2	ATX12V	4-pin +12V power connector
3	SYS_FAN	System cooling fan connector
4	CPU_FAN	CPU cooling fan connector
5	DIMM1~4	240-pin DDR3 SDRAM slots
6	ATX_POWER	Standard 24-pin ATX power connector
7	USB1/2/4	Front panel USB headers
8	USB 3	Front panel CR headers
9	SATA1~2	Serial ATA connectors
10	GPIO1~2	GPIO header 1~2
11	BIOS_FLASH	Reflash BIOS connectors
12	F_PANEL	Front panel switch/LED header
13	BIOS_WP	BIOS Write protection connectors
14	CLR_CMOS	Clear CMOS jumper
15	ME_Enable	ME Enable/Disable header
16	SPDIF_OUT	SPDIF out header
17	SPK	Internal speaker header
18	F_AUDIO Front	panel audio header
19	PCIE16X	Express x1 slot
20	PCIE X1	Express x1 slot

This concludes Chapter 1. The next chapter explains how to install the motherboard.

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## Block Diagram






## imedia S3811

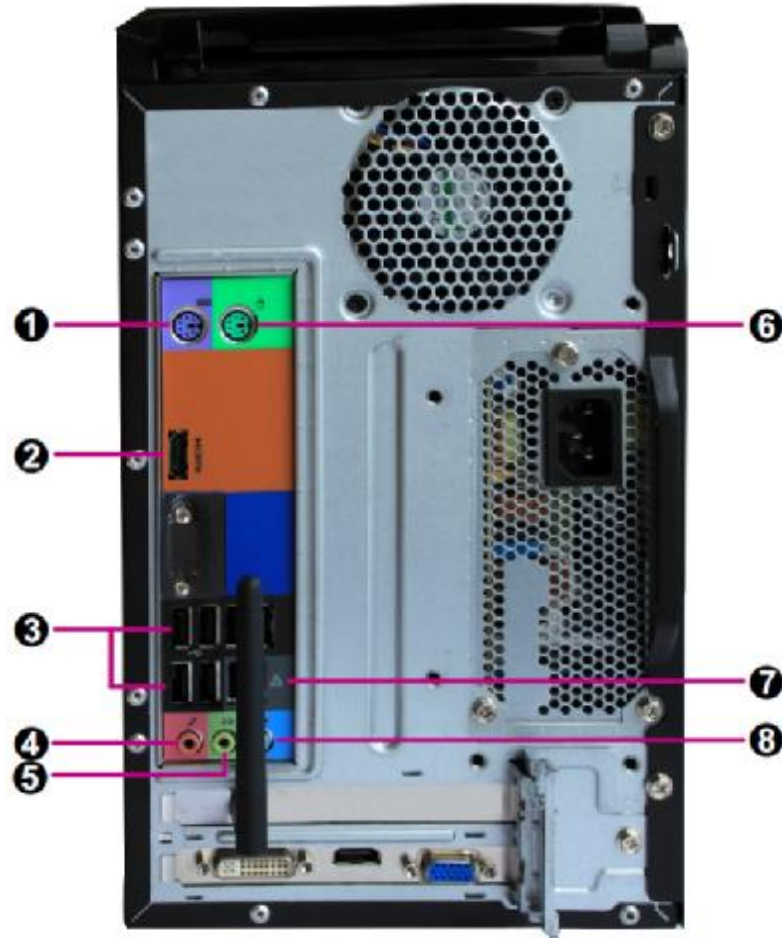
The computer's front panel consists of the following :








*Front view*



No	Icon	Component	Description
1		Microphone-in jack	Accepts input from external microphones.
2		Headphone/Speaker-out/line-out port.	Connects to audio line-in devices (e.g.,speakers,headphones).
3	SD/SDHC/MMC	SD Plus: Ultra II SD PLUS Memory Card SDHC: Secure Digital High Capacity MMC Plus: MultiMediaCard PLUS	
4	xD/MS/MS Pro	XD MS: Memory Stick MS Pro: Memory Stick PRO	
5		USB ports.	Connects to USB 2.0 devices (e.g.,USB mouse, USB camera).

Rear view



No	Icon	Component	Description
1		PS/2 keyboard connector	
2	HDMI	HDMI Port	High Definition Multimedia Interface
3		USB 2.0 ports	Connects to USB 2.0 devices (e.g., USB mouse, USB camera).
4		Microphone jack	Accepts input from external microphones.
5		Line-out jack	Accepts audio line-in devices (e.g., audio CD player.)
6		PS/2 mouse connector	
7		Network port	Lights to indicate the status of wireless LAN communications.
8		Line-in jack	Accepts audio line-out devices (e.g., audio CD player.)

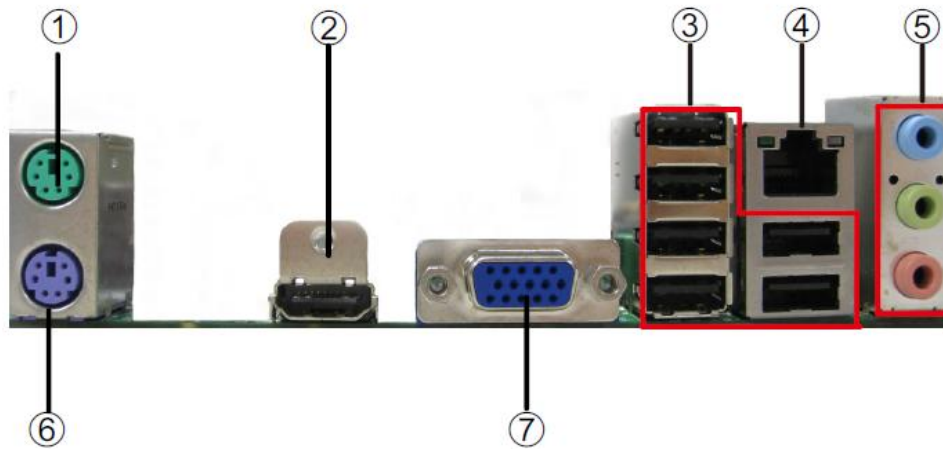
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### Audio Jack Function Table

Color/Use	Headphone	2CH	4CH	5.1CH
Blue	Line-in	Line-in	Rear Speaker	Rear Speaker
Green	Headphone	Front speaker	Front speaker	Front speaker
Pink	Mic-in	Mic-in	Mic-in	Center & bass

## I/O Port Introduction

The backplane of the motherboard has the following I/O ports:



No	Component	Description
1	PS2 Mouse	Use the upper PS/2 port to connect a PS/2 pointing device.
2	HDMI Port	Connect the HDMI port to the HDMI devices
3	USB Ports	Use the USB ports to connect USB devices.
4	LAN Port	Connect an RJ-45 jack to the LAN port to connect your computer to the Network.
5	Line-in / Line-out / Microphone	Use the three audio ports to connect audio devices. The first jack is for stereo line-in signal. The second jack is for stereo line-out signal. The third jack is for microphone.
6	PS2Keyboard	Use the lower PS/2 port to connect a PS/2 keyboard.
7	VGA Port	Connect your monitor to the VGA port.

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## System Peripherals

The imedia S3811 series computer consist of the system itself, and system peripherals, like a mouse, keyboard, card reader and a set of speakers (optional). This section provides a brief description of the basic system peripherals.

### Mouse (PS/2 or USB, manufacturing option)

The included mouse is a standard two-button wheel mouse. Connect the mouse to the PS/2 mouse port or USB port on the back panel of the system.



### Keyboard (PS/2 or USB, manufacturing option)

Connect the keyboard to the PS/2 keyboard port or USB port on the back panel of the system.



### Speakers

For systems bundled with speakers, before powering on the system, connect the speaker cable to the audio out (external speaker) port on the back panel of the system.

For more detailed information about the speakers, please refer to the included operating instructions.

**NOTE:** speakers are optional and the appearance might be different depending on the actual product.





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## Card Reader (Option)

Memory cards are used in a wide selection of digital cameras, PDAs, MP3 players and mobile phones. Selected computers include an "all-in-one" memory card reader that allows you read and write the most common types, such as SD (Secure Digital)<sup>™</sup>/ MMC (Multi Media Card<sup>™</sup>), CF (Compact Flash<sup>®</sup>), xD (XD-PICTURE CARD), Micro SD and MS/MS Pro (Memory Stick<sup>®</sup>).

NOTE: Card reader are optional and the appearance might be different depending on the actual product.

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## Hardware Specifications and Configurations

### Processor

Item	Specification
Type	LGA1156 socket for 2nd Generation Intel® Core™ Family/ Pentium®/Celeron® processors
Socket	socket LGA1156
Speed	Depends on CPU which is configured
FSB	Depends on CPU which is configured

### BIOS

Item	Specification
BIOS code programmer	AFUDOS
BIOS version	P01-A0 (or newer version)
BIOS ROM type	SPI ROM
BIOS ROM size	2MB
BIOS ROM package	32-pin DIP package(SST)
Support protocol	ACPI 2.0, APM 1.2, SMBIOS 2.3, WFM support, ASD
Boot from CD-ROM feature	Yes
Support to LS-120 FDD drive	Yes

**NOTE:** The BIOS can be overwritten/upgraded by using the flash utility.

### BIOS Hotkey List

Item	Specification	Specification
DEL	Enter BIOS Setup Utility	Press while the system is booting to enter BIOS setup Utility.
F12	Enter Boot Menu	Press while the system is booting to enter Boot Menu.

### Main Board Major Chips

Item	Specification
Chipset	Intel H57
AGP controller	Intel H57
Super I/O controller	ITE8721CX
Audio controller	Realtek ALC662-VC0
LAN controller	Realtek 8111E
HDD controller	Intel H57
Keyboard controller	ITE8721CX

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### System Memory

Item	Specification
Memory slot number	4 slots
Support memory size per socket	1GB to 4GB
Support maximum memory size	16 GB
Support memory type	DDR3 DRAM
Support memory interface	DDR3 1066/1333
Support memory module package	240-pin DIMM
Support parity check feature	Yes
Support to Error Correction Code (ECC) feature	ECC checking with double-bit detect and single-bit correct
Memory module combinations	You can install memory modules in any combination as long as they match the specifications.

**NOTE:** Dual channel should be enabled always when plug-in 2 same memory size DDRII memory module.

### Cache Memory

Item	Specification
<b>First-Level Cache Configurations</b>	
Cache function control	Always enabled
<b>Second-Level Cache Configurations</b>	
L2 Cache RAM size	Up to 2MB per core (exclusive)
L2 Cache RAM speed	One-half the processor core clock frequency
L2 Cache function control	Enable/Disable by BIOS Setup

### Video Interface

Item	Specification
Video controller	Intel H57
Video controller resident bus	PCIe
Video Interface	X16

### Audio Interface

Item	Specification
Audio controller	Realtek
Audio controller Type	ALC662-VC0
Audio Channel	5.1ch
Audio function control	Enable/disable by BIOS Setup
Mono or stereo	5.1 channel
Sampling rate	DACs: 44.1k/48k/96k/192k Hz
MPU-401 UART support	Yes
Microphone jack	Supported
Headphone jack	Supported

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#### IDE Interface

Item	Specification
IDE controller	Intel H57
Number of SATA connector	4
Support bootable CD-ROM	Yes

#### USB Port

Item	Specification
Universal HCI	USB 2.0
USB Class	Support legacy keyboard for legacy mode
USB Number	support up to 12 ports

#### Power Management

Devices	S1 (Idle)	S3 (Suspend to RAM)	S4 (Suspend to Disk)	S5 (Shut Down)
Power Button	Enabled	Enabled	Enabled	Disabled
USB Keyboard	Enabled	Enabled	Enabled	N/A
LAN	Disabled	Disabled	Disabled	Disabled
RTC	Disabled	Enabled	Disabled	Disabled
Modem (Ring)	Disabled	Disabled	Disabled	N/A

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## Power Management Function (ACPI support function)

### Device Standby Mode

- | Independent power management timer for hard disk drive devices (0-15 minutes, time step=1 minute).
- | Hard disk drive goes into Standby mode (for ATA standard interface).
- | Disable V-sync to control the VESA DPMS monitor.
- | Resume method: device activated (Keyboard for DOS, keyboard & mouse for Windows).
- | Resume recovery time: 3-5 sec.

### Global Standby Mode

- | Global power management timer (2-120 minutes, time step=10 minute).
- | Hard disk drive goes into Standby mode (for ATA standard interface).
- | Disable H-sync and V-sync signals to control the VESA DPMS monitor.
- | Resume method: Return to original state by pushing external switch button, modem ring in, keyboard and mouse for APM mode.
- | Resume recovery time: 7-10 sec.

### Suspend Mode

- | Independent power management timer (2-120 minutes, time step=10 minutes) or pushing external
- | switch button.
- | CPU goes into SMM.
- | CPU asserts STPCLK# and goes into the Stop Grant State.
- | LED on the panel turns amber colour.
- | Hard disk drive goes into SLEEP mode (for ATA standard interface).
- | Disable H-sync and V-sync signals to control the VESA DPMS monitor.
- | Ultra I/O and VGA chip go into power saving mode.
- | Resume method: Return to original state by pushing external switch button, modem ring in, keyboard and mouse for APM mode.
- | Return to original state by pushing external switch button, modem ring in and USB keyboard for ACPI mode.

### ACPI

- | ACPI specification 1.0b.
- | S0, S1, S3 and S5 sleep state support.
- | On board device power management support.
- | On board device configuration support.

## Using BIOS

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### About the Setup Utility

The computer uses the latest “American Megatrends Inc.” BIOS will support for Windows Plug and Play. The CMOS chip on the motherboard contains the ROM setup instructions for configuring the motherboard BIOS.

The BIOS (Basic Input and Output System) Setup Utility displays the system’s configuration status and provides you with options to set system parameters. The parameters are stored in battery-backed-up CMOS RAM that saves this information when the power is turned off. When the system is turned back on, the system is configured with the values you stored in CMOS.

The BIOS Setup Utility enables you to configure:

- | Hard drives, diskette drives and peripherals
- | Video display type and display options
- | Password protection from unauthorized use
- | Power Management features

The settings made in the Setup Utility affect how the computer performs. Before using the Setup Utility, ensure that you understand the Setup Utility options.

This chapter provides explanations for Setup Utility options.

#### The Standard Configuration

A standard configuration has already been set in the Setup Utility. However, we recommend that you read this chapter in case you need to make any changes in the future.

This Setup Utility should be used:

- | when changing the system configuration
- | when a configuration error is detected and you are prompted to make changes to the Setup Utility
- | when trying to resolve IRQ conflicts
- | When making changes to the Power Management configuration
- | when changing the password or making other changes to the Security Setup

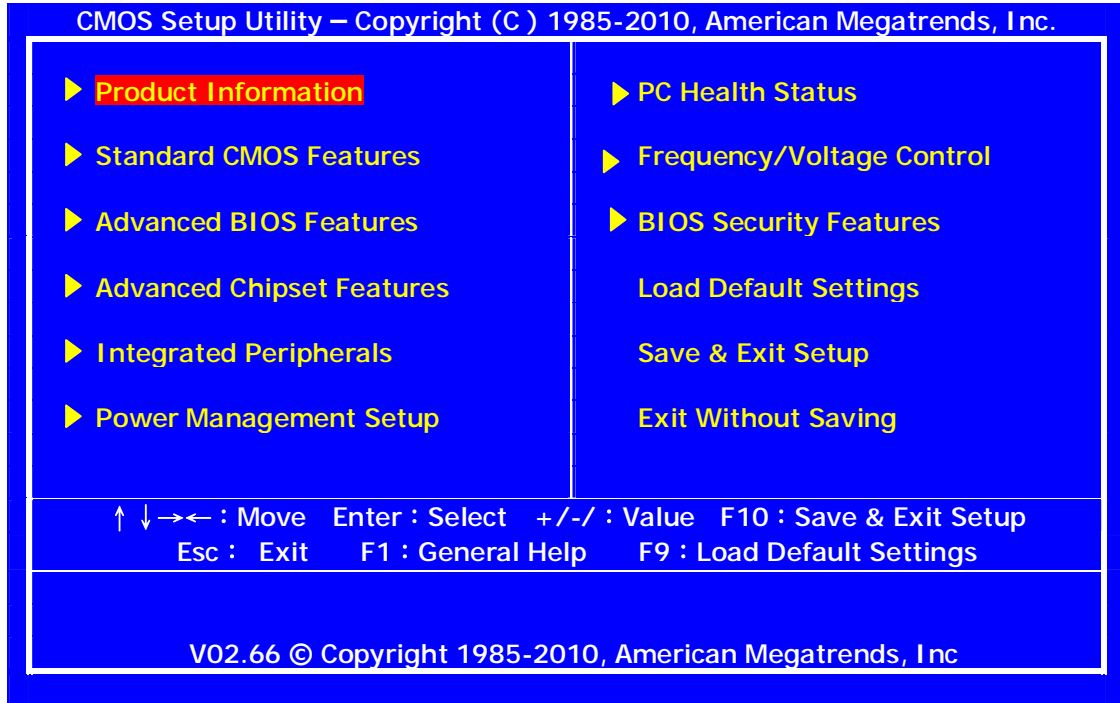
#### Entering the Setup Utility

When you power on the system, BIOS enters the Power-On Self Test (POST) routines. POST is a series of built-in diagnostics performed by the BIOS. After the POST routines are completed, the following message appears:

Press DEL to enter SETUP

## Setup Utility Menus

Pressing the **DEL** key accesses the BIOS Setup Utility:



*The default BIOS setting for this motherboard applies for most conditions with optimum performance. It is not suggested to change the default values in the BIOS setup and the manufacture takes no responsibility to any damage caused by changing the BIOS settings.*

### BIOS Navigation Keys

The BIOS navigation keys are listed below:

Key	Function
↑ ↓ → ←	Move
Enter	Select
+/-+PU/PD	Value
ESC	Exit
F1	General Help
F9	Load Default Settings
F10	Save & Exit Setup

---

## Updating the BIOS

You can download and install updated BIOS for this motherboard from the manufacturer's Web site. New BIOS provides support for new peripherals, improvements in performance, or fixes for known bugs. Install new BIOS as follows:

- 1 If your motherboard has a BIOS protection jumper, change the setting to allow BIOS flashing.
- 2 If your motherboard has an item called Firmware Write Protect in Advanced BIOS features, disable it. (Firmware Write Protect prevents BIOS from being overwritten.)
- 3 Create a bootable system disk. (Refer to Windows online help for information on creating a bootable system disk.)
- 4 Download the Flash Utility and new BIOS file from the manufacturer's Website. Copy these files to the system diskette you created in Step 3.
- 5 Turn off your computer and insert the system diskette in your computer's diskette drive. (You might need to run the Setup Utility and change the boot priority items on the Advanced BIOS Features Setup page, to force your computer to boot from the floppy diskette drive first.)
- 6 At the A:\ prompt, type the Flash Utility program name and press <Enter>.
- 7 Type the filename of the new BIOS in the "File Name to Program" text box. Follow the onscreen directions to update the motherboard BIOS.
- 8 When the installation is complete, remove the floppy diskette from the diskette drive and restart your computer. If your motherboard has a Flash BIOS jumper, reset the jumper to protect the newly installed BIOS from being overwritten.

## Using BIOS

When you start the Setup Utility, the main menu appears. The main menu of the Setup Utility displays a list of the options that are available. A highlight indicates which option is currently selected. Use the cursor arrow keys to move the highlight to other options. When an option is highlighted, execute the option by pressing <Enter>.

Some options lead to pop-up dialog boxes that prompt you to verify that you wish to execute that option. Other options lead to dialog boxes that prompt you for information.

Some options (marked with a triangle  $\triangle$ ) lead to submenus that enable you to change the values for the option. Use the cursor arrow keys to scroll through the items in the submenu.

In this manual, default values are enclosed in parenthesis. Submenu items are denoted by a triangle  $\triangle$



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## Product Information

This option displays basic information about your system.

CMOS Setup Utility Product Information		Item Help
Processor Type	Intel(R) Core(TM) i7 CPU	
Processor Speed	870 @ 2.93GHz	
System Memory	2.93GHz	
Product Name	8192 MB	
System Serial Number	Imedia S3811	
System BIOS Version	P01-A4	
BIOS Release Date	08/19/2010	
Asset Tag Number		

↑ ↓ → ← : Move    Enter : Select    +/- / : Value    F10 : Save & Exit Setup  
Esc : Exit    F1 : General Help    F9 : Load Default Settings

Press <ESC> to return to the main menu setting page



*For the purpose of better product maintenance, the manufacture reserves the right to change the BIOS items presented in this manual. The BIOS setup screens shown in this chapter are for reference only and may differ from the actual BIOS.*

*Please visit the manufacture's website for updated manual.*

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## Standard CMOS Features

This option displays basic information about your system.

CMOS Setup Utility Standard CMOS Features		
System Date	Wed, 11 / 05 / 2010	Item Help
System Time	10 : 54 : 28	
u AHCI Port 1	[Hard Disk]	Use [ENTER], [TAB] or [SHIFT-TAB] to select a field.
u AHCI Port 2	[ATAPI CDROM]	
Halt On	All ,But Keyboard	Use[+]or[-]to configure system Date

↑ ↓ → ← : Move    Enter : Select    + / - / : Value    F10 : Save & Exit Setup  
Esc : Exit    F1 : General Help    F9 : Load Default Settings

### Date and Time

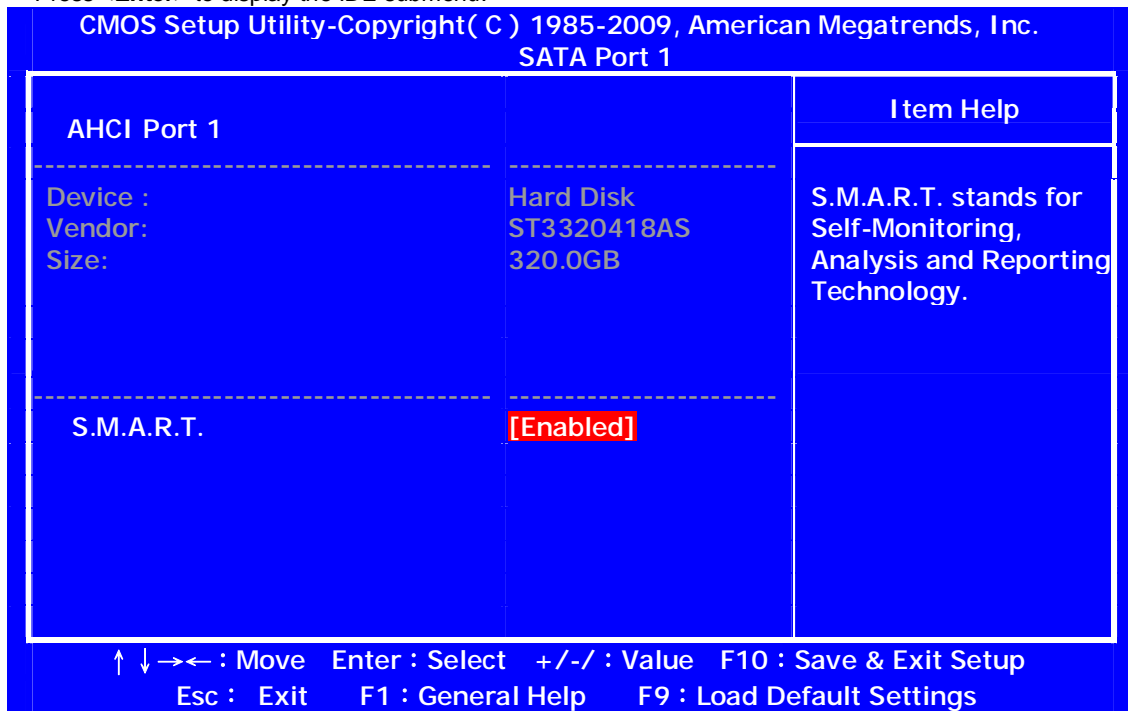
The Date and Time items show the current date and time on the computer. If you are running a Windows OS, these items are automatically updated whenever you make changes to the Windows Date and Time Properties utility.

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#### ⌵ AHCI Port1 /Port2

Your computer has one IDE channel which can be installed with one or two devices (Master and Slave). In addition, this motherboard supports two SATA channels and each channel allows one SATA device to be installed. Use these items to configure each device on the IDE channel.

Press <Enter> to display the IDE submenu:



#### SATA Port0 (Auto)

Use this item to configure the type of the IDE device that you specify. If the feature is enabled, it will enhance hard disk performance by reading or writing more data during each transfer.

#### S.M.A.R.T. (Enabled)

The S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) system is a diagnostics technology that monitors and predicts device performance. S.M.A.R.T. software resides on both the disk drive and the host computer.

Press <Esc> to return to the Standard CMOS Setup page.

#### Halt On (All, But Keyboard)

This item defines the operation of the system POST (Power On Self Test) routine. You can use this item to select which types of errors in the POST are sufficient to halt the system.

Press <Esc> to return to the main menu setting page.

## Advanced BIOS Features

This page sets up more advanced information about your system.

CMOS Setup Utility		
Advanced BIOS Features		
		Item Help
Quick Boot	Enabled	
Quiet Boot	Enabled	
1st Boot Device	ST3320418AS	Allows BIOS to skip Certain tests while Booting. This will Decrease the time Needed to boot the System.
2nd Boot Device	ATAPI DVD A DH16A6S	
3rd Boot Device	USB:Generic-Compact	
4th Boot Device	LAN	
u Hard Disk Drive Priority	Press Enter	
u Optical Disk Drive Priority	Press Enter	
u Removable Device Priority	Press Enter	
u Network Device Priority	Press Enter	
Bootup Num-Lock	On	
USB Beep Message	Disabled	

↑ ↓ → ← : Move    Enter : Select    +/- / : Value    F10 : Save & Exit Setup  
 Esc : Exit    F1 : General Help    F9 : Load Default Settings

### Quick Boot (Enabled)

If you enable this item, the system starts up more quickly by elimination of some of the power on test routines.

### Quiet Boot (Enabled)

This item is used to enable/disable the quiet boot.

[Disabled]: Displays the normal POST messages.

[Enabled]: Displays OEM customer logo instead of POST messages.

### 1st/2nd/3rd/4th Boot Device (Hard Drive/CD/DVD/Kingston DataTravel/Network)

Use this item to determine the device order the computer used to look for an operating system to load at start-up time. The devices shown here will be different depending on the exact devices installed on your motherboard.

u **Hard Disk Drive Priority (Press Enter)**

Scroll to this item and press <Enter> to view the following screen:

CMOS Setup Utility		Item Help
Hard Disk Drive Priority		
Hard Disk Drive Priority		Specifies the boot sequence from the available devices.
1st Drive	ST3320418AS	

↑ ↓ → ← : Move   Enter : Select   +/- / : Value   F10 : Save & Exit Setup  
Esc : Exit   F1 : General Help   F9 : Load Default Settings

Press <Esc> to return to the Advanced BIOS Features screen.

u **Optical Disk Drive Priority D/DVD Drives (Press Enter)**

Scroll to this item and press <Enter> to view the following screen:

CMOS Setup Utility		Item Help
Optical Disk Drive Priority		
Optical Disk Drive Priority		Specifies the boot sequence from the available devices.
1st Drive	ATAPI DVD A DH16A6S	

↑ ↓ → ← : Move   Enter : Select   +/- / : Value   F10 : Save & Exit Setup  
Esc : Exit   F1 : General Help   F9 : Load Default Settings

Press <Esc> to return to the Advanced BIOS Features screen.

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u Removable Device Priority (Press Enter)

Scroll to this item and press <Enter> to view the following screen:

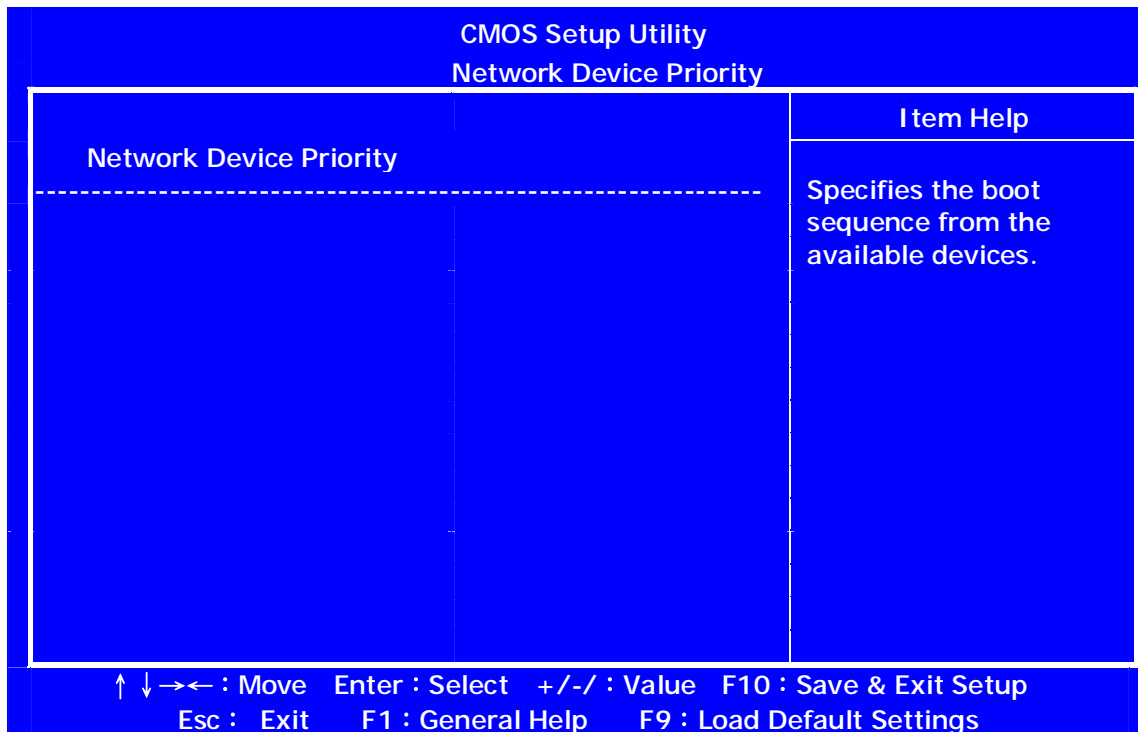
CMOS Setup Utility		Item Help
Removable Device Priority		
Removable Device		
-----		
1 <sup>st</sup> Drive	USB: Generic Compact	Specifies the boot sequence from the available devices.
2 <sup>nd</sup> Drive	USB: Multiple Flash	
↑ ↓ → ← : Move    Enter : Select    +/- / : Value    F10 : Save & Exit Setup Esc : Exit    F1 : General Help    F9 : Load Default Settings		

Press <Esc> to return to the Advanced BIOS Features screen.

---

u **Network Device Priority (Press Enter)**

Scroll to this item and press <Enter> to view the following screen:



Press <Esc> to return to the Advanced BIOS Features screen.

**Boot Up NumLock (On)**

This item defines if the keyboard Num Lock key is active when your system is started.

**USB Beep Message (Disabled)**

This item disables/enables the beep during USB device enumeration.

Press <Esc> to return to the main menu setting page.

## Advanced Chipset Features

These items define critical timing parameters of the motherboard. You should leave the items on this page at their default values unless you are very familiar with the technical specifications of your system hardware. If you change the values incorrectly, you may introduce fatal errors or recurring instability into your system.

CMOS Setup Utility		
Advanced Chipset Features		
		Item Help
Intel EIST	Enabled	Intel EIST (Enhanced Intel Speedstep Technology) Automatically adjusts Intel processor Voltage and core Frequency according To system performance Demand.
Intel Turbo Boost	Enabled	
Intel AES-NI	Enabled	
Intel XD Bit	Enabled	
Intel VT	Enabled	
Memory Hole Remapping	Enabled	
Primary Video	Auto	

↑ ↓ → ← : Move    Enter : Select    +/- / : Value    F10 : Save & Exit Setup  
 Esc : Exit    F1 : General Help    F9 : Load Default Settings

### Intel EIST (Enabled)

This item allows users to enable or disable the EIST (Enhanced Intel SpeedStep technology).

### Intel Turbo Boost(Enabled)

This item enables or disables Intel Turbo Boost.

### Intel XD Bit (Enabled)

This item allows users to enable or disable the Intel XD bit.

### Intel VT (Enabled)

Hardware Virtualization Technology enables processor feature for running multiplesimultaneous Virtual Machines allowing specialized software applications to run in full isolation of each other.

### Memory Hole Remapping (Enabled)

This item allows users to enable or disable memory hole remapping.

Press <Esc> to return to the main menu setting page.



## Integrated Peripherals

This page sets up some parameters for peripheral devices connected to the system.

CMOS Setup Utility Integrated Peripherals		
		Item Help
Onboard SATA Controller	Enabled	Options Enabled Disabled
Onboard SATA Mode	AHCI	
Onboard USB Controller	Enabled	
Legacy USB Support	Enabled	
USB Storage Emulation	Auto	
Onboard Graphics Controller	Disabled	
Onboard Audio Controller	Enabled	
Onboard LAN Controller	Enabled	
Onboard LAN Option ROM	Disabled	

↑ ↓ → ← : Move    Enter : Select    + / - : Value    F10 : Save & Exit Setup  
Esc : Exit    F1 : General Help    F9 : Load Default Settings

### OnBoard SATA Mode (AHCI)

Use this item to select the onboard SATA mode.

### OnBoard SATA Controller (Enabled)

This item allows you to enable or disable the onboard SATA controller.

### OnBoard USB Controller (Enabled)

Use this item to enable or disable the use of USB controller.

### Legacy USB Support (Enabled)

Use this item to enable or disable support for legacy USB devices. Setting to Auto allows the system to detect the presence of USB device at startup. If detected, the USB controller legacy mode is enabled. If no USB device is detected, the legacy USB support is disabled.

### USB Storage Emulation (Auto)

If Auto, USB device equal or less than 2GB will be emulated as Floppy and remaining as hard drive. Forced FDD option can be used to force a HDD formatted drive to boot as FDD (Ex.ZIP drive).

### Onboard Audio Controller (Enabled)

This item enables or disables the onboard audio controller.

### Onboard LAN Controller (Enabled)

Use this item to enable or disable the Onboard LAN.

### Onboard LAN Option ROM (Disabled)

This item enables or disables the onboard LAN option ROM function.

Press <Esc> to return to the main menu setting page.

---

## Power Management Setup

This page sets up some parameters for system power management operation.

CMOS Setup Utility		Item Help
Power Management Setup		
ACPI Suspend Mode	S3 (STR)	Select the ACPI state used for System Suspend.
Deep Power off mode	Enabled	
Power On by RTC Alarm	Disabled	
Power On by PCIE Devices	Disabled	
Wake Up by PS/2 KB/Mouse	Enabled	
Wake Up by USB KB/Mouse	Enabled	
Restore On AC Power Loss	Last State	

↑ ↓ → ← : Move    Enter : Select    +/- : Value    F10 : Save & Exit Setup  
Esc : Exit    F1 : General Help    F9 : Load Default Settings

### ACPI Suspend Type (S3 (STR))

Use this item to define how your system suspends. In the default, S1 (POS), the suspend mode is equivalent to a software power down. If you select S3 (STR), the suspend mode is suspend to RAM, i.e., the system shuts down with the exception of a refresh current to the system memory.

### Deep Power Off Mode (Enabled)

Under ACPI (Advanced Configuration and Power management Interface) you can create a software power down. In a software power down, the system can be resumed by Wake Up Alarms. This item lets you install a software power down that is controlled by the power button on your system. If the item is set to Instant-Off, then the power button causes a software power down. If the item is set to Delay 4 Sec, then you have to hold the power button down for four seconds to cause a software power down.

### Power On by RTC Alarm (Disabled)

The system can be turned off with a software command. If you enable this item, the system can automatically resume at a fixed time based on the system's RTC (real time clock). Use the items below this one to set the date and time of the wake-up alarm. You must use an ATX power supply in order to use this feature.

### Power On by PCIE Devices (Disabled)

The system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the PCIE LAN card. You must use an ATX power supply in order to use this feature. Use this item to do wake-up action if inserting the PCIE card.

### Wake Up by PS/2 KB/Mouse (Enabled)

This item enables or disables you to allow keyboard or mouse activity to awaken the system from power saving mode.

### Wake Up by USB KB/Mouse (Enabled)

This item allows you to enable/disable the USB device wakeup function from S3 mode.

---

**Restore On AC Power Loss (Last State)**

This item defines how the system will act after AC power loss during system operation. When you set to Off, it will keep the system in Off state until the power button is pressed.

Press <Esc> to return to the main menu setting page.

---

## PC Health Status

On motherboards support hardware monitoring, this item lets you monitor the parameters for critical voltages, temperatures and fan speeds.

CMOS Setup Utility	
PC Health Status	
PC Health Status	Item Help
-----	
CPU Temperature (PECI Mode)	: 38
System Temperature	: 41°C/105°F
CPU Fan Speed	: 1104 RPM
System Fan Speed	: N/A
CPU Core	: 1.152 V
+1.05V	: 1.392 V
+3.30V	: 3.024 V
+5.00V	: 5.068 V
+12.0V	: 11.831 V
5VSB	: 4.945 V
VBAT	: 3.336 V
Smart Fan	<b>Enabled</b>

↑ ↓ → ← : Move    Enter : Select    +/- / : Value    F10 : Save & Exit Setup  
Esc : Exit    F1 : General Help    F9 : Load Default Settings

### SMART Fan (Enabled)

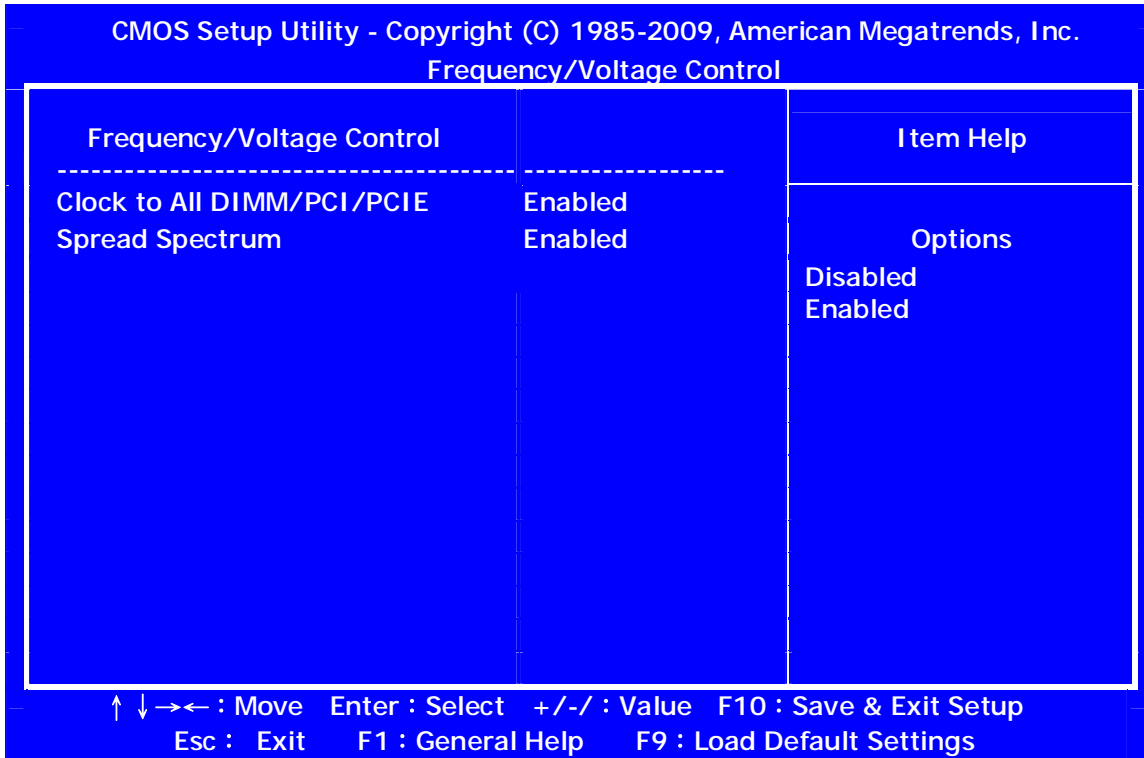
This item allows you to enable/disable the control of the system fan speed by changing the fan voltage.

Press <ESC> to return to the main menu setting page

---

## Frequency/Voltage Control

On motherboards support hardware monitoring, this item lets you monitor the parameters for critical voltages, temperatures and fan speeds.



### **Clock to All DIMM/PCI/PCIE (Enabled)**

This item allows you to enable or disable the Clock to all DIMM/PCIE

### **Spread Spectrum (Enabled)**

If you enable spread spectrum, it can significantly reduce the EMI (Electro-Magnetic interference) generated by the system and voltage according to its temperature

Press <Esc> to return to the main menu setting page.

## BIOS Security Features

This page enables you to set the clock speed and system bus for your system. The clock speed and system bus are determined by the kind of processor you have installed in your system.

CMOS Setup Utility BIOS Security Features		
		Item Help
-----		
BIOS Security Features		
Supervisor Password	:Not Installed	Install or Change the Password.
User Password	:Not Installed	
Change Supervisor Password	Press Enter	
↑ ↓ → ← : Move    Enter : Select    +/- / : Value    F10 : Save & Exit Setup Esc : Exit    F1 : General Help    F9 : Load Default Settings		

### Supervisor Password (Not Installed)

This item indicates whether a supervisor password has been set. If the password has been installed, Installed displays. If not, Not Installed displays.

### User Password (Not Installed)

This item indicates whether a user password has been set. If the password has been installed, Installed displays. If not, Not Installed displays.

### Change Supervisor Password (Press Enter)

You can select this option and press <Enter> to access the sub menu. You can use the sub menu to change the supervisor password.

Press <Esc> to return to the main menu setting page.

## Load Default Settings

This option opens a dialog box that lets you install stability-oriented defaults for all appropriate items in the Setup Utility. Select <OK> and then press <Enter> to install the defaults. Select <Cancel> and then press <Enter> to not install the defaults.

Press <Esc> to return to the main menu setting page.

---

## Save & Exit Setup

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility and exit the Setup Utility. When the Save and Exit dialog box appears, select [OK] to save and exit, or select [Cancel] to return to the main menu.

## Exit Without Saving

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. When the Exit Without Saving dialog box appears, select [OK] to discard changes and exit, or select [Cancel] to return to the main menu.



*If you have made settings that you do not want to save, use the “Exit Without Saving” item and select [OK] to discard any changes you have made.*

### Machine Disassembly and Replacement

---

To disassemble the computer, you need the following tools:

- I Wrist grounding strap and conductive mat for preventing electrostatic discharge.
- I Wire cutter.
- I Phillips screwdriver (may require different size).

**NOTE:** The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatches when putting back the components.



---

## General Information

### Before You Begin

Before proceeding with the disassembly procedure, make sure that you do the following:

1. Turn off the power to the system and all peripherals.
2. Unplug the AC adapter and all power and signal cables from the system.

---

## Standard Assembly Process

### 1. Opening the chassis

#### 1.1 Remove the two screws



#### 1.2 Remove side cover.



### 2. Removing PSU bracket

#### 2.1 Rotate the PSU bracket



---

3. Removing HDD bracket

3.1 Remove the screw

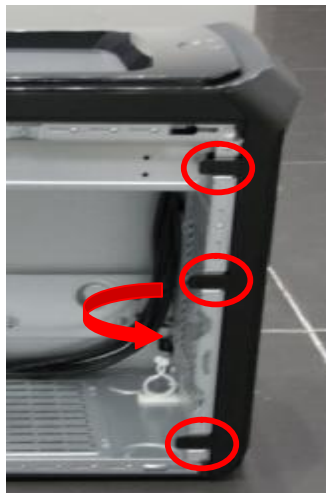


3.2 Rotate the bracket



4. Removing front bezel

4.1 Pushing three hooks



---

**4.2 Rotate the front bezel**



**5. Insert the ODD devices**

**5.1 Pushing HDD devices into bracket**



**5.2 Fix two screws**



---

## 6. Setting the Motherboard

### 6.1 Motherboard view



### 6.2 Open the CPU cover



### 6.3 Put the CPU in the seat and close the cover

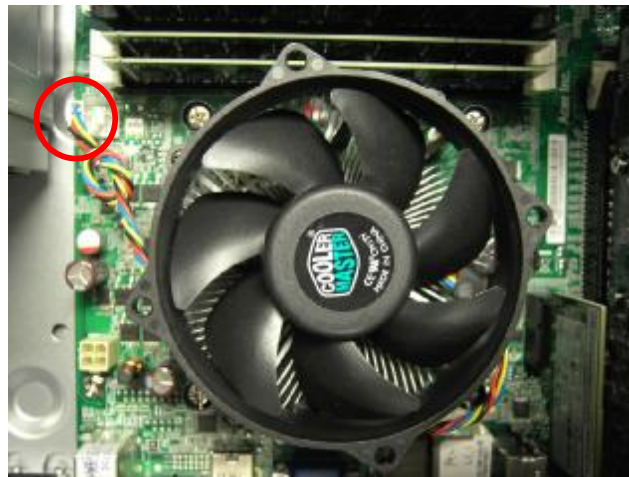


---

6.4 Tie CPU fan cable



6.5 Pulling in CPU fan power cable to MB



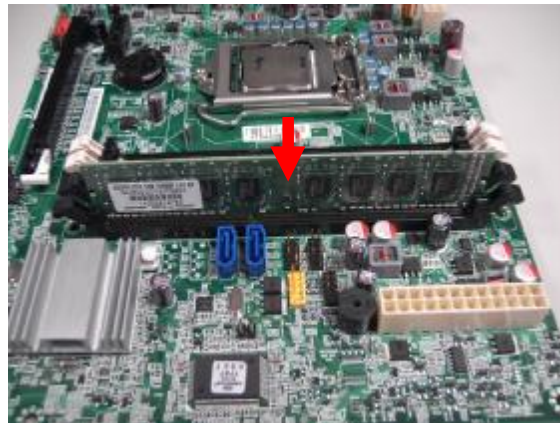
6.6 Fix four screws of CPU Cooler connect to MB



6.7 Open the Memory latch

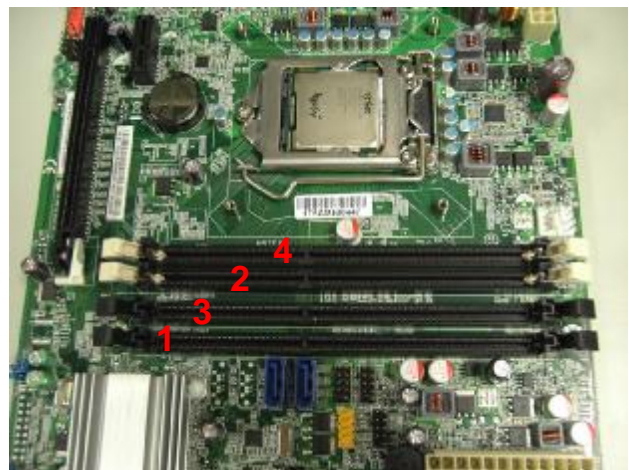


6.8 Press down the memory



6.9 Memory install rule

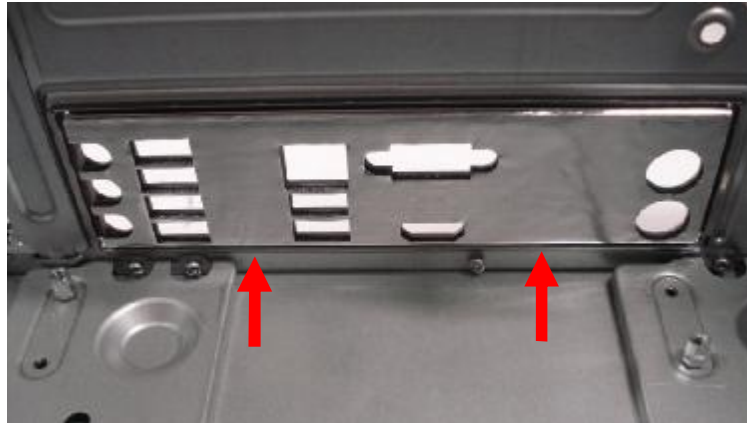
	DIMM4	DIMM2	DIMM3	DIMM1
1x1G				1GB
2x1G		1GB		1GB
3x1G		1GB	1GB	1GB
4x1G	1GB	1GB	1GB	1GB
1x1G+1x2G		1GB		2GB
1x2G				2GB
2x2G		2GB		2GB
3x2G		2GB	2GB	2GB
4x2G	2GB	2GB	2GB	2GB



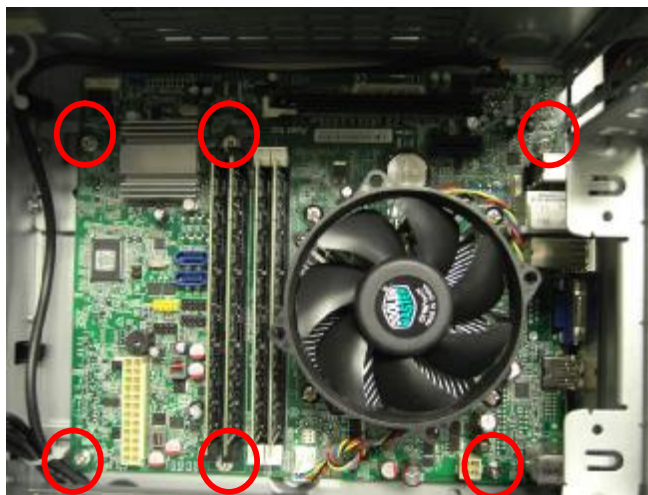
---

## 7. Assembly motherboard

### 7.1 Pushing rear I/O Shield in chassis

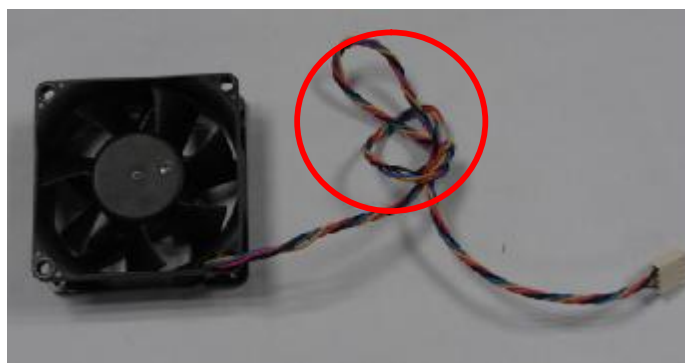


### 7.2 Insert the motherboard and fix six screws



## 8. Insert the system Fan

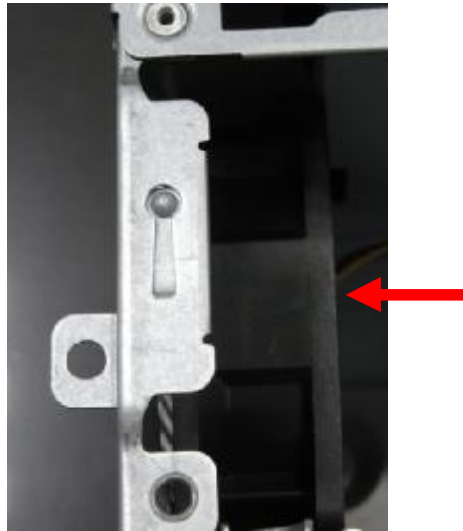
### 8.1 Tie system fan cable



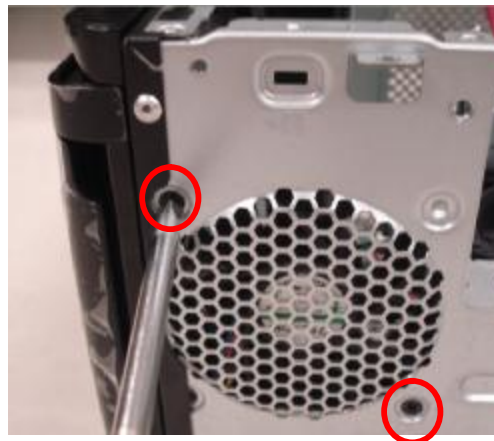


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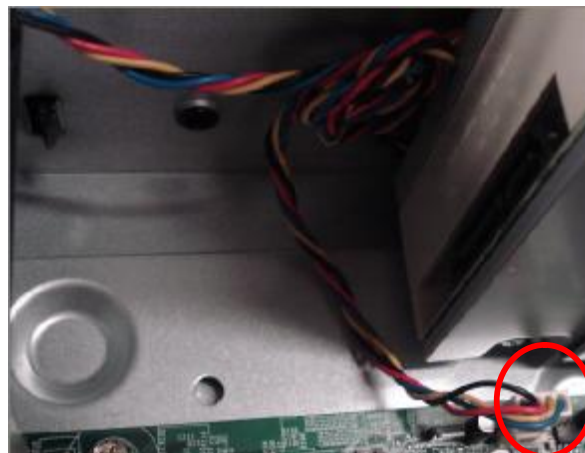
**8.2 Pushing system fan**



**8.3 Fix two screw**

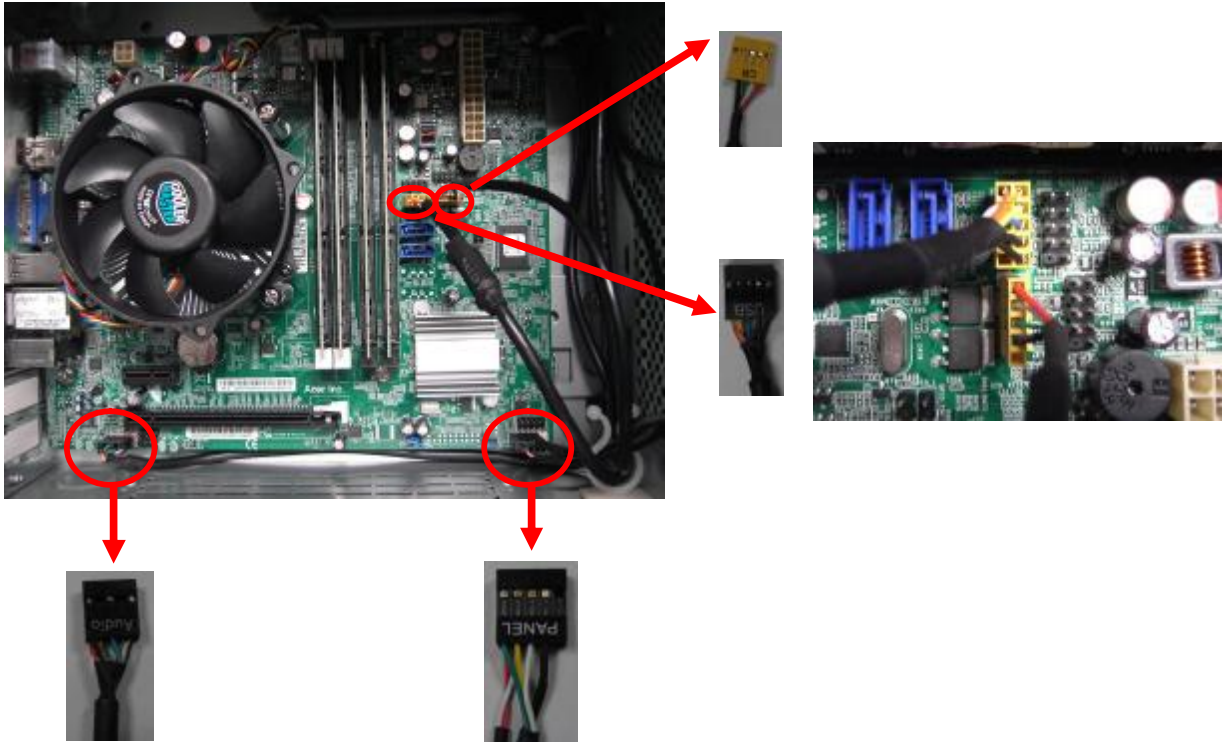


**8.4 Pulling in system fan power cable to MB**



---

9. Pulling in Audio/USB1/CR/PANEL cable to MB and put in cable clip



10. Insert the HDD

10.1 Pushing HDD into bracket



10.2 Fix four screws

**Front**



**Back**



---

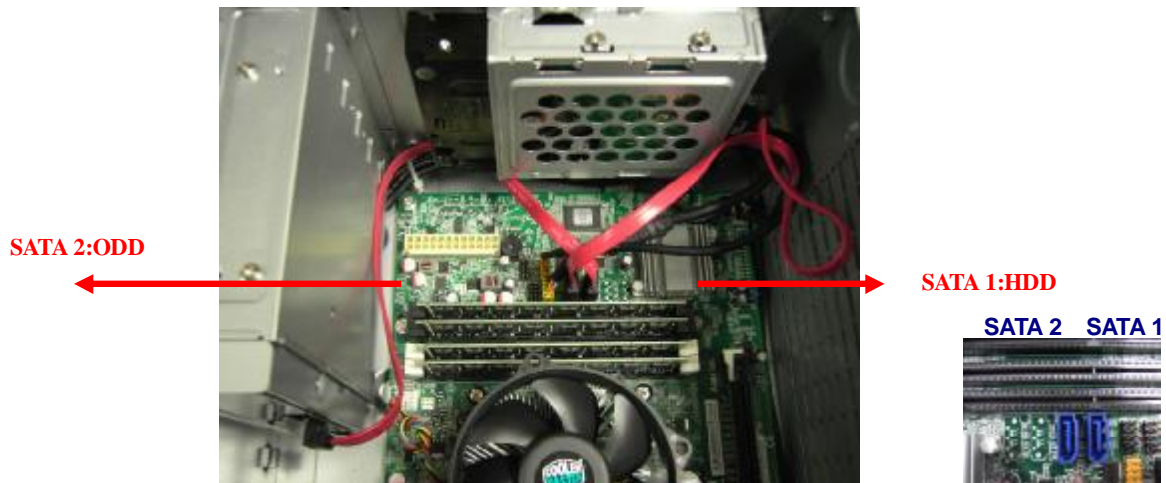
**10.3 Pushing HDD into chassis**



**10.4 Fix the screws**



**11. Pulling in HDD & ODD SATA cable on Motherboard**



---

12. Insert VGA card

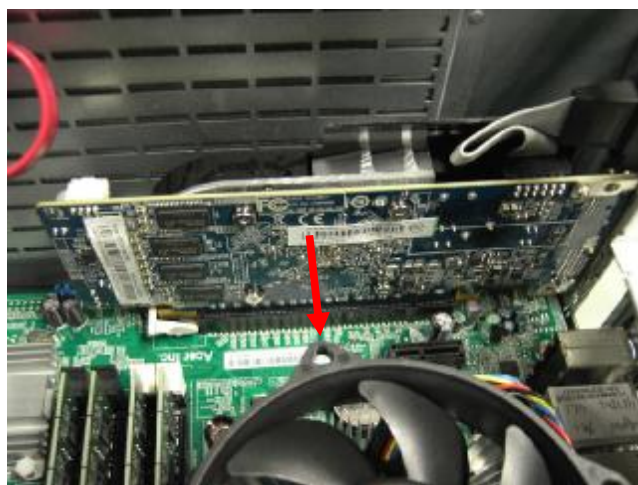
12.1 Rotate the bracket



12.2 Remove PCI slot



12.3 Install VGA card on motherboard



---

**12.4** Rotate the bracket

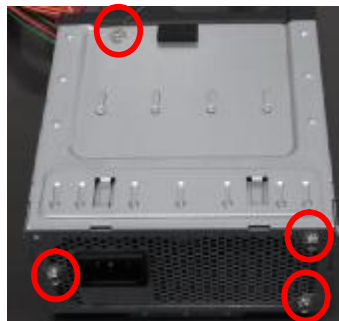


**13.** Insert the PSU

**13.1** Pushing PSU into bracket



**13.2** Fix four screws

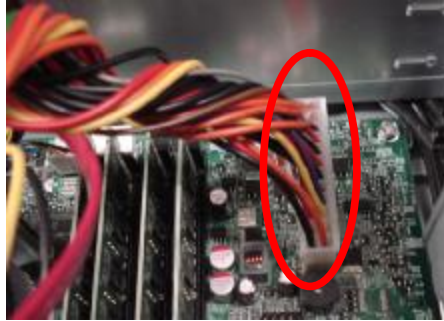


**13.3** ATX 12V power cable insert

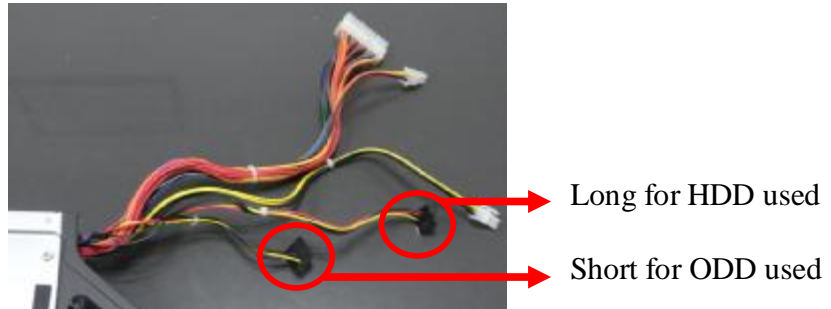


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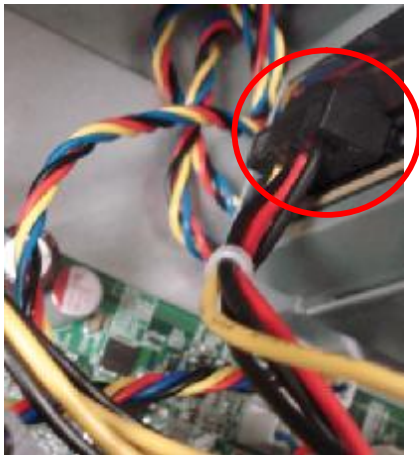
**13.4** ATX power cable insert



**13.5** Insert the ODD/HDD power-cable



Insert the ODD power-cable



Insert the HDD power-cable



---

14. Overview



---

## Standard Disassembly Process

### 1. Opening the chassis

#### 1.1 Remove the two screws

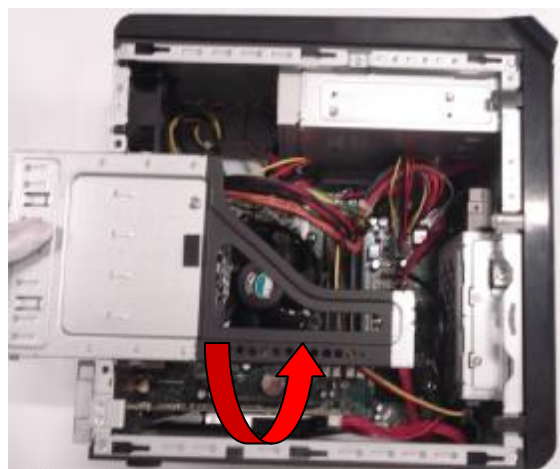


#### 1.2 Remove the side cover



### 2. Removing the power-supply

#### 2.1 Rotate the power-supply





---

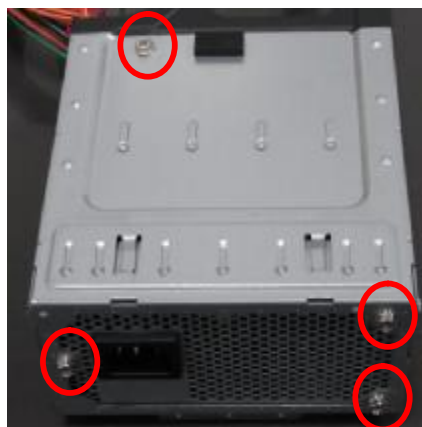
**2.2** Pulling out the 20 pins power connector and 4 pins power connector



**2.3** Pulling out the ODD power-cable and HDD power-cable

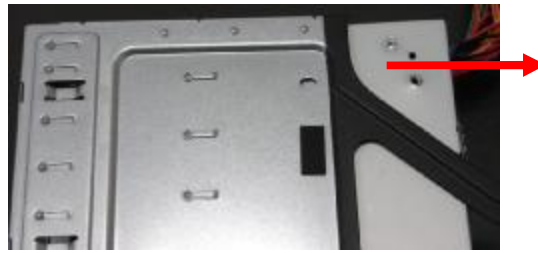


**2.4** Remove four screws

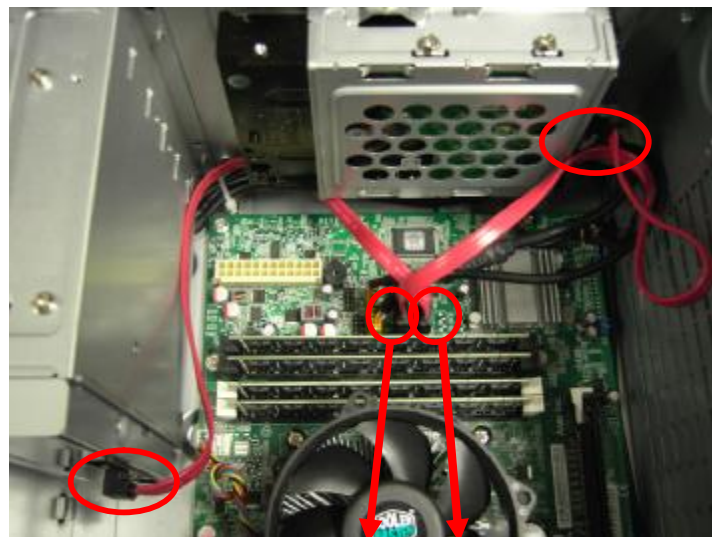


---

2.5 Remove the power-supply



3. Pulling out the SATA ODD cable and SATA HDD cable



HDD Cable ODD Cable

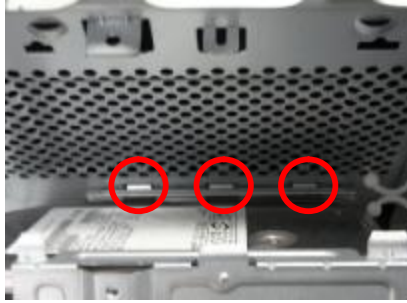
4. Removing the HDD

4.1 Remove the screw



---

4.2 Rotate the bracket



4.3 Remove four screws

**Front**



**Back**



4.4 Remove the HDD



---

5. Removing the VGA Card

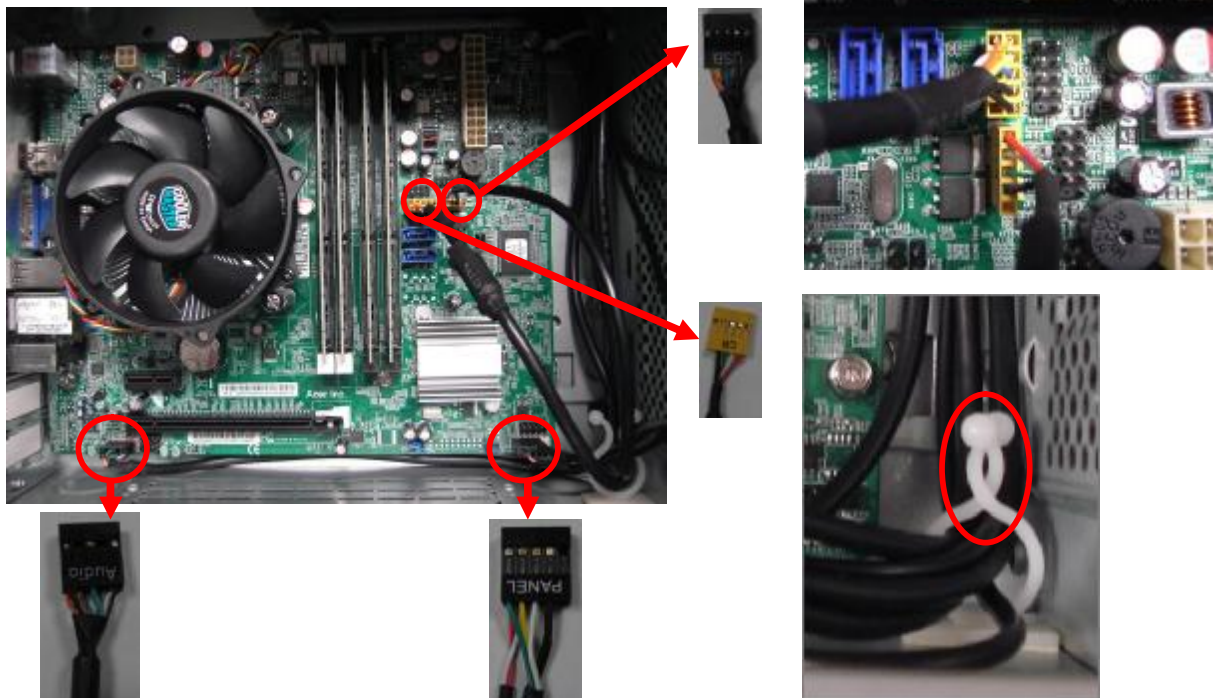
5.1 Rotate the bracket



5.2 Remove the VGA Card



6. Pulling out the Audio/USB1/CR/PANEL cable



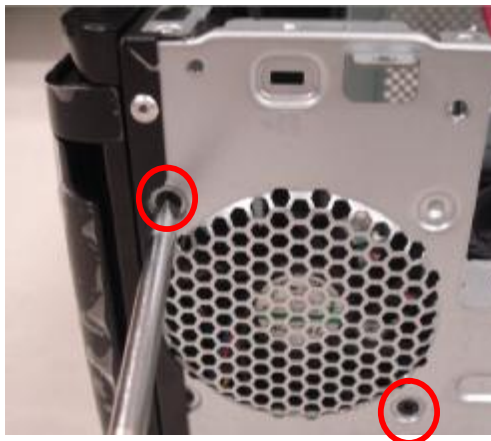
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## 7. Removing system Fan

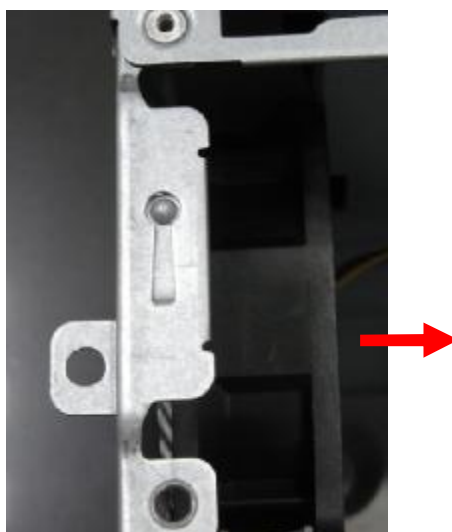
### 7.1 Pulling out the system Fan cable



### 7.2 Remove two screws



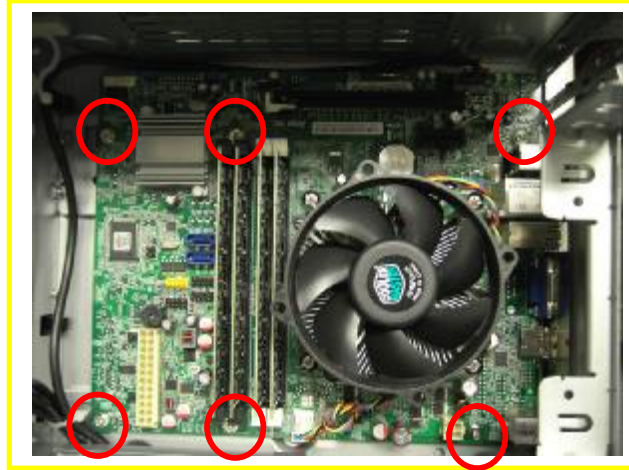
### 7.3 Remove system Fan



---

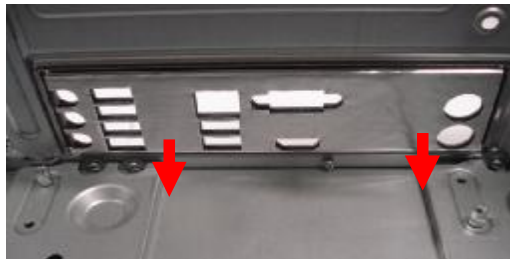
## 8. Removing the Main Board

8.1 Remove eight screws then you can pull out MB and remove it.

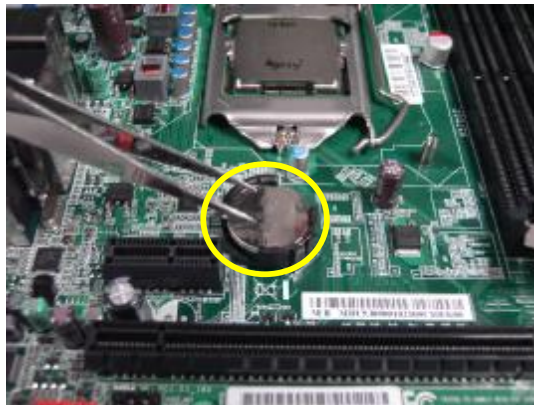


**NOTE:** Circuit boards >10 cm<sup>2</sup> has been highlighted with the yellow rectangle as above image shows. Please detach the Circuit boards and follow local regulations for disposal.

8.2 Remove the Rear IO Shield.



8.3 Remove the RTC battery.



**NOTE:** RTC battery has been highlighted with the yellow circle as above image shows. Please detach the RTC battery and follow local regulations for disposal.

---

**8.4** Pulling out the CPU cooler power-cable from the main board



**8.5** Remove the four CPU Cooler screws



**8.6** Remove the CPU



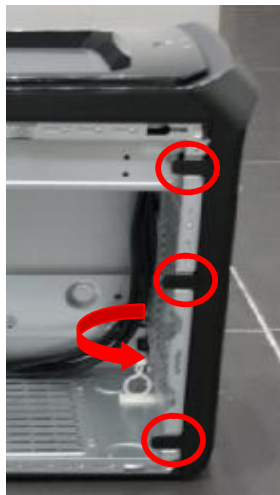
---

**8.7** Release the four latch show bellow then remove the Memory



**9.** Removing front bezel

**9.1** Pushing three hooks



**9.2** Rotate the front bezel

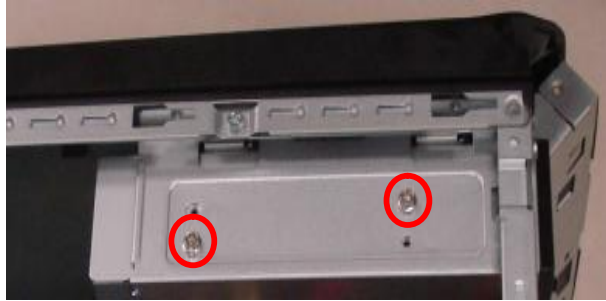




---

## 10. Removing the ODD

10.1 remove two screws

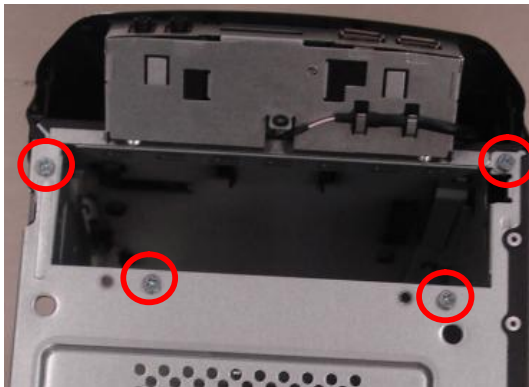


10.2 Pulling out the ODD



## 11. Removing the ODD bracket

11.1 Remove five screws.



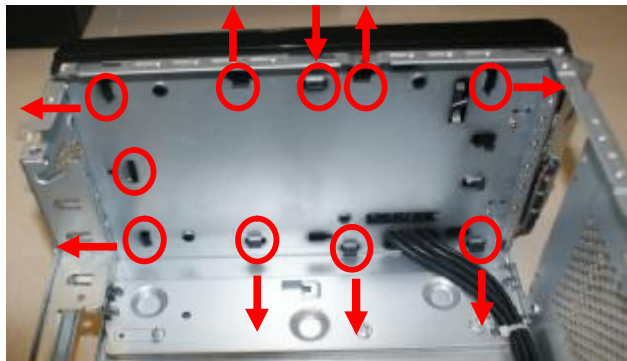
---

**11.2** Removing the ODD bracket



**12.** Pulling out Card reader & USB & Audio module and power switch & HDD led cable

**12.1** Removing top bezel (Pushing the hooks)

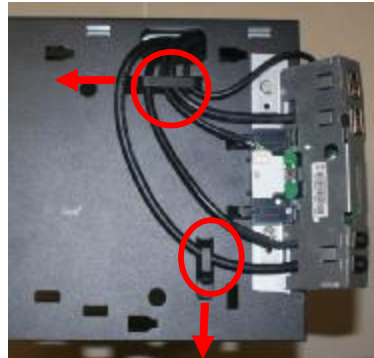


**12.2** Removing Cable-Tie



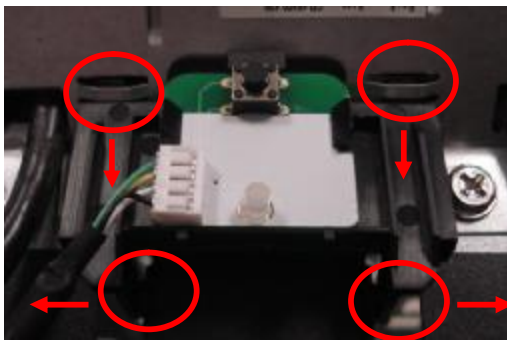
---

**12.3** Pushing the Cable

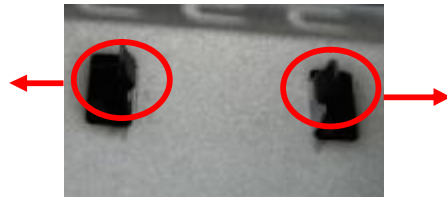


**12.4** Removing power switch & HDD-LED \_holder

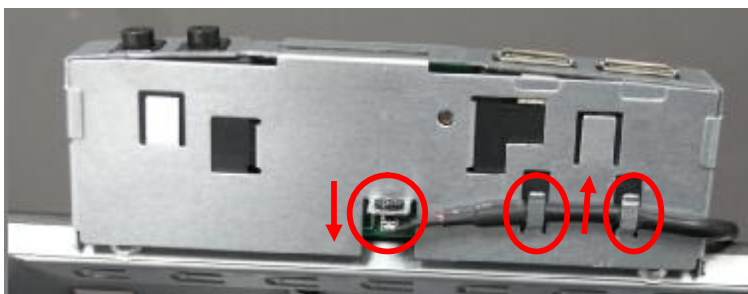
**Front**



**Back**

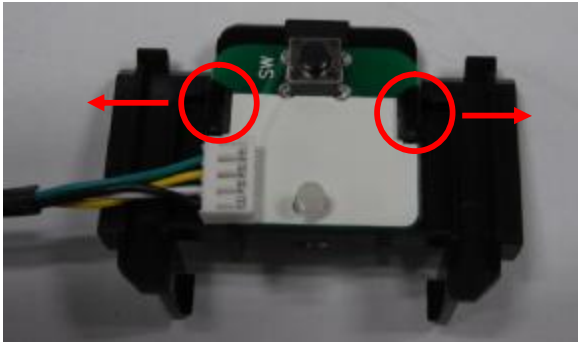


**12.5** Pulling out HDD LED cable

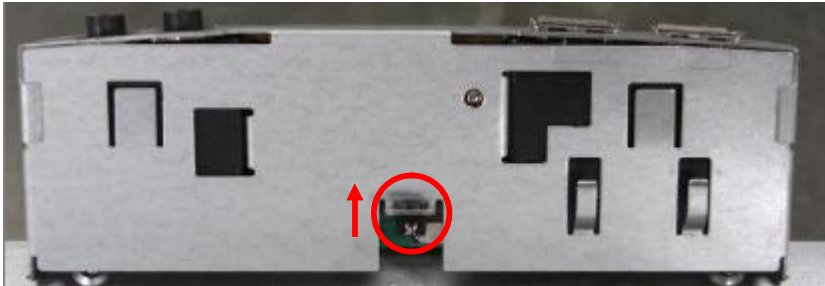


---

**12.6** Removing power switch & HDD led cable



**12.7** Removing HDD led housing



**12.8** Removing the two screw and pulling out Card reader & USB & Audio module



## Machine Disassembly and Replacement

---

This chapter provides troubleshooting information for the imedia S3811 Service Guide

- I Power-On Self-Test (POST)
- I POST Error Messages List
- I Error Symptoms List
- I Undetermined Problems

---

## Power-On Self-Test (POST)

Each time you turn on the system, the Power-on Self Test (POST) is initiated. Several items are tested during POST, but is for the most part transparent to the user.

The Power-On Self Test (POST) is a BIOS procedure that boots the system, initializes and diagnoses the system components, and controls the operation of the power-on password option. If POST discovers errors in system operations at power-on, it displays error messages on screen, generates a check point code at port 80h or even halts the system if the error is fatal.

The main components on the main board that must be diagnosed and/or initialized by POST to ensure system functionality are as follows:

- | Microprocessor with built-in numeric co-processor and cache memory subsystem
- | Direct Memory Access (DMA) controller
- | Interrupt system
- | Three programmable timers
- | ROM subsystem
- | RAM subsystem
- | CMOS RAM subsystem and real time clock/calendar with battery backup
- | Onboard parallel interface controller
- | Embedded hard disk interface and one diskette drive interface
- | Keyboard and auxiliary device controllers
- | I/O ports
  - | One parallel port
  - | One PS/2-compatible mouse port
  - | One PS/2-compatible keyboard port

**NOTE:** When Post executes a task, it uses a series of preset numbers called check points to be latched at port 80h, indicating the stages it is currently running. This latch can be read and shown on a debug board.

The following table describes the BIOS common tasks carried out by POST. Each task is denoted by a unique check point number. For other unique check point numbers that are not listed in the table, refer to the corresponding product service guide.

Post Checkpoints List: The list may vary accordingly depending on your BIOS

Checkpoint	Description
03	Disable NMI, Parity, video for EGA, and DMA controllers. Initialize BIOS, POST, Runtime data area. Also initialize BIOS modules on POST entry and GPNV area. Initialize CMOS as mentioned in the Kernel Variable "wCMOSFlags."
04	Check CMOS diagnostic byte to determine if battery power is OK and CMOS checksum is OK. Verify CMOS checksum manually by reading storage area. If the CMOS checksum is bad, update CMOS with power-on default values and clear passwords. Initialize status register A.
05	Initializes the interrupt controlling hardware (generally PIC) and interrupt vector table.
06	Do R/W test to CH-2 count reg. Initialize CH-0 as system timer. Install the POSTINT1Ch handler. Enable IRQ-0 in PIC for system timer interrupt. Traps INT1Ch vector to "POSTINT1ChHandlerBlock."
07	Fixes CPU POST interface calling pointer.

Checkpoint	Description
08	Initializes the CPU. The BAT test is being done on KBC. Program the keyboard controller command byte is being done after Auto detection of KB/MS using AMI KB-5.
C0	Early CPU Init Start -- Disable Cache – Init Local APIC
C1	Set up boot strap processor Information
C2	Set up boot strap processor for POST
C5	Enumerate and set up application processors
C6	Re-enable cache for boot strap processor
C7	Early CPU Init Exit
0A	Initializes the 8042 compatible Key Board Controller.
0B	Detects the presence of PS/2 mouse.
0C	Detects the presence of Keyboard in KBC port.
0E	Testing and initialization of different Input Devices. Also, update the Kernel Variables. Traps the INT09h vector, so that the POST INT09h handler gets control for IRQ1. Uncompress all available language, BIOS logo, and Silent logo modules.
13	Early POST initialization of chipset registers.
20	Relocate System Management Interrupt vector for all CPU in the system.
24	Uncompress and initialize any platform specific BIOS modules. GPNV is
2A	Initializes different devices through DIM.
2C	Initializes different devices. Detects and initializes the video adapter installed in the system that had optional ROMs.
2E	Initializes all the output devices.
31	Allocate memory for ADM module and uncompress it. Give control to ADM module for initialization. Initialize language and font modules for ADM. Activate ADM module.
33	Initializes the silent boot module. Set the window for displaying text information.
37	Displaying sign-on message, CPU information, setup key message, and any OEM specific information.
38	Initializes different devices through DIM. USB controllers are initialized at this point.

---

Checkpoint	Description
39	Initializes DMAC-1 & DMAC-2.
3A	Initialize RTC date/time.
3B	Test for total memory installed in the system. Also, Check for DEL or ESC keys to limit memory test. Display total memory in the system.
3C	Mid POST initialization of chipset registers.
40	Detect different devices (Parallel ports, serial ports, and coprocessor in CPU, ... etc.) successfully installed in the system and update the BDA, EBDA...etc.
52	Updates CMOS memory size from memory found in memory test. Allocates memory for Extended BIOS Data Area from base memory. Programming the memory hole or any kind of implementation that needs an adjustment in system RAM size if needed.
60	Initializes NUM-LOCK status and programs the KBD typematic rate.
75	Initialize Int-13 and prepare for IPL detection.
78	Initializes IPL devices controlled by BIOS and option ROMs.
7C	Generate and write contents of ESCD in NVRam.
84	Log errors encountered during POST.
85	Display errors to the user and gets the user response for error.
87	Execute BIOS setup if needed / requested. Check boot password if installed.
8C	Late POST initialization of chipset registers.
8D	Build ACPI tables (if ACPI is supported)
8E	Program the peripheral parameters. Enable/Disable NMI as selected
90	Initialize system management interrupt by invoking all handlers. Please note this checkpoint comes right after checkpoint 20h
A1	Clean-up work needed before booting to OS.



---

Checkpoint	Description
A2	Takes care of runtime image preparation for different BIOS modules. Fill the free area in F000h segment with 0FFh. Initializes the Microsoft IRQ Routing Table. Prepares the runtime language module. Disables the system configuration display if needed.
A4	Initialize runtime language module. Display boot option popup menu.
A7	Displays the system configuration screen if enabled. Initialize the CPU's before boot, which includes the programming of the MTRR's.
A9	Wait for user input at config display if needed.
AA	Uninstall POST INT1Ch vector and INT09h vector.
AB	Prepare BBS for Int 19 boot. Init MP tables.
AC	End of POST initialization of chipset registers. De-initializes the ADM module.
B1	Save system context for ACPI. Prepare CPU for OS boot including final MTRR values.
00	Passes control to OS Loader (typically INT19h).

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## POST Error Messages List

If you cannot run the diagnostics program tests but did receive a POST error message, use "POST Error Messages List" to diagnose system problems. If you did not receive any error message, look for a description of your error symptoms in "Error Symptoms List" on page 66.

**NOTE:** When you have deemed it necessary to replace an FRU, and have done so, you must run a total system check to ensure that no other activity has been affected by the change. This system check can be done through the diagnostics program.

**NOTE:** Check all power supply voltages, switch, and jumper settings before you replace the main board. Also check the power supply voltages if you have a "system no-power" condition.

If you are unable to correct the problem by using the "BIOS Messages List" table and "Error Symptoms List" table, go to "Undetermined Problems".

To diagnose a problem, first find the BIOS error messages in the left column. If directed to a check procedure, replace the FRU indicated in the check procedure. If no check procedure is indicated, the first Action/FRU listed in right column is the most likely cause.

BIOS Messages	Action/FRU
BIOS ROM checksum error - System halted	The checksum of the BIOS code in the BIOS chip is incorrect, indicating the BIOS code may have become corrupt. Contact your system dealer to replace the BIOS.
CMOS Battery Failed	The CMOS battery is no longer functional. Contact your system dealer for a replacement the BIOS.
CMOS Checksum Error- defaults loaded	Checksum of CMOS is incorrect, so the system loads the default equipment configuration. A checksum error may indicate that CMOS has become corrupt. A weak battery may have caused this error. Check the battery and replace if necessary.
CPU at nnnn	Displays the running speed of CPU.
Display switch is set incorrectly	The display switch on the motherboard can be set to either monochrome or color. This message indicates the switch is set to a different setting than indicated in Setup. Determine which setting is correct, and then either turn off the system and change the jumper, or enter Setup and change the Video selection.
Press ESC to skip memory test	The user may press Esc to skip the full memory test.
HARD DISK initializing - Please	Some hard drives require extra time to initialize.
HARD DISK INSTALL FAILURE	Cannot find or initialize the hard drive controller or the drive. Make sure the controller is installed correctly. If no hard drives are installed, be sure the Hard Drive Selection in Setup is set to NONE.
Hard disk(s) diagnosis fail	The system may run specific disk diagnostic routines. This message appears if one or more hard disks return an error when the diagnostics run.

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<b>BIOS Messages</b>	<b>Action/FRU</b>
Keyboard Error Or No Keyboard Present	Cannot initialize the keyboard. Make sure the keyboard is attached correctly and no keys are pressed during POST. To purposely configure the system without a keyboard, set the error halt condition in Setup to HALT ON ALL, BUT KEYBOARD. The BIOS then ignores the missing keyboard during POST.
Keyboard is locked out - Unlock the key	This message usually indicates that one or more keys have been pressed during the keyboard tests. Be sure no objects are resting on the keyboard.
Memory Test:	This message displays during a full memory test, counting down the memory areas being tested.
Memory test fail	If POST detects an error during memory testing, additional information appears giving specifics about the type and location of the memory error.
Override enabled - Defaults loaded	If the system cannot boot using the current CMOS configuration, the BIOS can override the current configuration with a set of BIOS defaults designed for the most stable, minimal-performance system operations.
Press TAB to show POST screen	System OEMs may replace the Phoenix Technologies Award BIOS POST display with their own proprietary display. Including this message in the OEM display permits the operator to switch between the OEM display and the default POST display.
Primary master hard disk fail	POST detects an error in the primary master IDE hard drive.
Primary slave hard disk fail	POST detects an error in the secondary master IDE hard drive.
Secondary master hard disk fail	POST detects an error in the primary slave IDE hard drive.
Secondary slave hard disk fail	POST detects an error in the secondary slave IDE hard drive.

## Error Symptoms List

**NOTE:** To diagnose a problem, first find the error symptom in the left column. If directed to a check procedure, replace the FRU indicated in the check procedure. If no check procedure is indicated, the first Action/ FRU listed in right column is the most likely cause.

Error Symptom	Action/FRU
<b>Processor / Processor Fan</b>	
<b>NOTE:</b> Normally, the processor fan should be operative, and the processor clock setting should be exactly set to match its speed requirement before diagnosing any processor problems.	
Processor fan does not run but power supply fan runs.	<ol style="list-style-type: none"> <li>1. Ensure the system is not in power saving mode. See "Power Management" in chapter 2.</li> <li>2. With the system power on, measure the voltage of processor fan connector. Its reading should be +12Vdc. Its reading should be +12Vdc. If the reading shows normal, but the fan still does not work, then replace a good fan.</li> <li>3. Main board.</li> </ol>
Processor test failed.	<ol style="list-style-type: none"> <li>1. Processor.</li> <li>2. Main board.</li> </ol>
<b>Main board and Memory</b>	
<b>NOTE:</b> Ensure the memory modules are installed properly and the contact leads are clean before diagnosing any system problems.	
Memory test failed.	<ol style="list-style-type: none"> <li>1. See "Memory"</li> <li>2. Main board</li> </ol>
Incorrect memory size shown or repeated during POST.	<ol style="list-style-type: none"> <li>1. Insert the memory modules in the DIMM sockets properly, then reboot the system.</li> <li>2. Memory module.</li> <li>3. Main board.</li> </ol>
System works but fails to enter power saving mode when the Power Management Mode is set to Enabled.	<ol style="list-style-type: none"> <li>1. Enter BIOS Setup and load default settings. In Windows Systems, check settings in Power Management Property of Control Panel.</li> <li>2. Reload software from Recovery CD.</li> </ol>
Blinking cursor only; system does not work.	<ol style="list-style-type: none"> <li>1. Diskette/IDE drive connection/cables</li> <li>2. Diskette/IDE disk drives</li> <li>3. See "Undetermined Problems".</li> <li>4. Main board</li> </ol>
<b>Hard Disk Drive</b>	
<b>NOTE:</b> Ensure hard disk drive is configured correctly in BIOS Setup, cable/jumper are set correctly before diagnosing any hard disk drive problems. (If only one drive is installed, please make sure the drive is connected to master connector or the drive is set to master.)	
Hard disk drive test failed.	<ol style="list-style-type: none"> <li>1. Enter BIOS Setup and Load default settings.</li> <li>2. Hard disk drive cable.</li> <li>3. Hard disk drive.</li> <li>4. Main board.</li> </ol>
Hard disk drive cannot format completely.	<ol style="list-style-type: none"> <li>1. Enter BIOS Setup and Load default settings.</li> <li>2. Hard disk drive cable.</li> <li>3. Hard disk drive.</li> <li>4. Main board.</li> </ol>
Hard disk drive has write error.	<ol style="list-style-type: none"> <li>1. Enter BIOS Setup and Load default settings.</li> <li>2. Hard disk drive.</li> </ol>
Hard disk drive LED fails to light, but system operates normally.	<ol style="list-style-type: none"> <li>1. With the system power on, measure the voltage of hard disk LED connector.</li> <li>2. Hard drive LED cable.</li> </ol>

Error Symptom	Action/FRU
<b>CD/DVD-ROM Drive</b>	
<b>NOTE:</b> Ensure CD/DVD-ROM drive is configured correctly in BIOS Setup, cable/jumper are set correctly and its laser beam is clean before diagnosing any CD/DVD-ROM drive problems.	
CD/DVD-ROM drive LED doesn't come on but works normally.	1. CD/DVD-ROM drive
CD/DVD-ROM drive LED flashes for more than 30 seconds before LED shutting off.  Software asks to reinstall disc. Software displays a reading CD/DVD error.	1. CD/DVD-ROM may have dirt or foreign material on it. Check with a known good disc. 2. CD/DVD-ROM is not inserted properly. 3. CD/DVD-ROM is damaged.
CD/DVD-ROM drive cannot load or eject when the system is turned on and its eject button is pressed and held.	1. Disconnect all cables from CD/DVD-ROM drive except power cable, then press eject button to try to unload the disk. 2. CD/DVD-ROM drive power. 3. CD/DVD-ROM drive
CD/DVD-ROM drive does not read and there are no messages are displayed.	1. CD may have dirt or foreign material on it. Check with a known good disc. 2. Ensure the CD/DVD-ROM driver is installed properly. 3. CD/DVD-ROM drive.
CD/DVD-ROM drive can play audio CD but no sound output.	1. Ensure the headphone jack of the CD/DVD-ROM has an output. 2. Turn up the sound volume. 3. Speaker power/connection/cable. 4. CD/DVD-ROM drive.
<b>Real-Time Clock</b>	
Real-time clock is inaccurate.	1. Ensure the information in the Standard CMOS Feature of BIOS Setup is set correctly. 2. RTC battery. 3. Main board
<b>Audio</b>	
Audio software program invokes but no sound comes from speakers.	1. Speaker power/connection/cable.
<b>Modem</b>	
Modem ring cannot wake up system from suspend mode.	1. For the External Modem, make sure Power on By Ring in BIOS Setup or Power Management is set to Enabled. For the PCI modem, make sure Wake up by PCI card is set to Enabled. 2. If PCI modem card is used, reinsert the modem card to PCI slot firmly or replace the modem card. 3. In Win 98, ensure the telephone application is configured correctly for your modem and set to receive messages and/or fax.
Data/fax modem software program invokes but cannot receive/send data/fax	1. Ensure the modem card is installed properly.
Fax/voice modem software program invokes but has no sound output. (Data files are received normally; voice from modem cannot be produced, but system sound feature works normally.)	1. Ensure the modem voice-in cable from modem adapter card to main board

Error Symptom	Action/FRU
<b>Video and Monitor</b>	
Video memory test failed. Video adapter failed.	<ol style="list-style-type: none"> <li>1. Remove all non-factory-installed cards.</li> <li>2. Load default settings (if screen is readable).</li> <li>3. Main board</li> </ol>
Display problem: - Incorrect colors No high intensity Missing, broken, or incorrect characters Blank monitor (dark) Blank monitor (bright) Distorted image Unreadable monitor Other monitor problems	<ol style="list-style-type: none"> <li>1. Monitor signal connection/cable.</li> <li>2. Monitor</li> <li>3. Video adapter card</li> <li>4. Main board</li> </ol>
Display changing colors.	<ol style="list-style-type: none"> <li>1. Monitor signal connection/cable</li> <li>2. Monitor</li> <li>3. Main board</li> </ol>
Display problem not listed above (including blank or illegible monitor).	<ol style="list-style-type: none"> <li>1. "Monitor"</li> <li>2. Load default settings (if screen is readable).</li> <li>3. Main board</li> </ol>
<b>Parallel/Serial Ports</b>	
Execute "Load BIOS Default Settings" in BIOS Setup to confirm ports presence before diagnosing any parallel/serial ports problems.	
Serial or parallel port loop-back test failed.	<ol style="list-style-type: none"> <li>1. Make sure that the LPT# or COM# you test is the same as the setting in BIOS Setup.</li> <li>2. Loop-back.</li> <li>3. Main board.</li> </ol>
Printing failed.	<ol style="list-style-type: none"> <li>1. Ensure the printer driver is properly installed. Refer to the printer service manual.</li> <li>2. Printer.</li> <li>3. Printer cable.</li> <li>4. Main board.</li> </ol>
Printer problems.	<ol style="list-style-type: none"> <li>1. Refer to the service manual for the printer.</li> </ol>
<b>Keyboard</b>	
Some or all keys on keyboard do not work.	<ol style="list-style-type: none"> <li>1. Keyboard</li> </ol>
<b>Power Supply</b>	
Pressing power switch does not turn off system. (Only unplugging the power cord from electrical outlet can turn off the system.)	<ol style="list-style-type: none"> <li>1. Ensure the Soft-off by PWR-BTTN. in BIOS Setup of Power Management is not set to Instant-off.</li> <li>2. Power switch cable assembly</li> </ol>
Pressing power switch does not turn on the system.	<ol style="list-style-type: none"> <li>1. Ensure the power override switch (situated at the back of the machine, just above the connector for the power cable) is not set to OFF.</li> <li>2. Power switch cable assembly.</li> </ol>

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<b>Error Symptom</b>	<b>Action/FRU</b>
Executing software shutdown from Windows98 Start menu does not turn off the system. (Only pressing power switch can turn off the system).	<ol style="list-style-type: none"><li>1. Load default settings.</li><li>2. Reload software from Recovery CD.</li></ol>
No system power, or power supply fan is not running.	<ol style="list-style-type: none"><li>1. Power Supply</li><li>2. Main board</li></ol>
<b>Other Problems</b>	
Any other problems.	<ol style="list-style-type: none"><li>1. Undetermined Problems</li></ol>

---

## Undetermined Problems

If an error message is present, go to "POST Error Messages List" on page 64. If you did not receive any messages, if the symptom is listed in "Error Symptoms List" on page 66. If you still cannot solve the problem, continue with this check:

1. Check the power supply voltages. If the voltages are correct continue with the following steps:
2. Power off the system unit.
3. Perform the following checks, one by one, until you have isolated the problem FRU.
4. Load default settings in setup.
5. Check all main board jumper positions and switch settings.
6. Check all adapter card jumper positions.
7. Check all device jumper positions.
8. Check all cables and connectors for proper installation.
9. If the jumpers, switches and voltage settings are correct, remove or disconnect the following, one at a time.
10. Non-Acer devices
  - I External devices
  - I Any adapter card (modem card, LAN card or video card, if installed)
  - I CD/DVD-ROM drive
  - I Hard disk drive
  - I DIMM
  - I Processor
  - I Main board
11. Power on the system unit.
12. Repeat steps 2 through 5 until you find the failing device or adapter.



## Jumper and Connector Information

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### Safety Precautions

- | Follow these safety precautions when installing the motherboard
- | Wear a grounding strap attached to a grounded device to avoid damage from static electricity
- | Discharge static electricity by touching the metal case of a safely grounded object before working on the motherboard
- | Leave components in the static-proof bags they came in
- | Hold all circuit boards by the edges. Do not bend circuit boards

### Choosing a Computer Case

There are many types of computer cases on the market. The motherboard complies with the specifications for the Micro ATX system case. Firstly, some features on the motherboard are implemented by cabling connectors on the motherboard to indicators and switches on the system case. Make sure that your case supports all the features required. Secondly, this motherboard supports one or two floppy diskette drives and two enhanced IDE drives. Make sure that your case has sufficient power and space for all drives that you intend to install.

Most cases have a choice of I/O templates in the rear panel. Make sure that the I/O template in the case matches the I/O ports installed on the rear edge of the motherboard.

This motherboard carries an Micro ATX form factor of 244 X 244 mm. Choose a case that accommodates this form factor.

### Installing the Motherboard in a Case

Refer to the following illustration and instructions for installing the motherboard in a case.

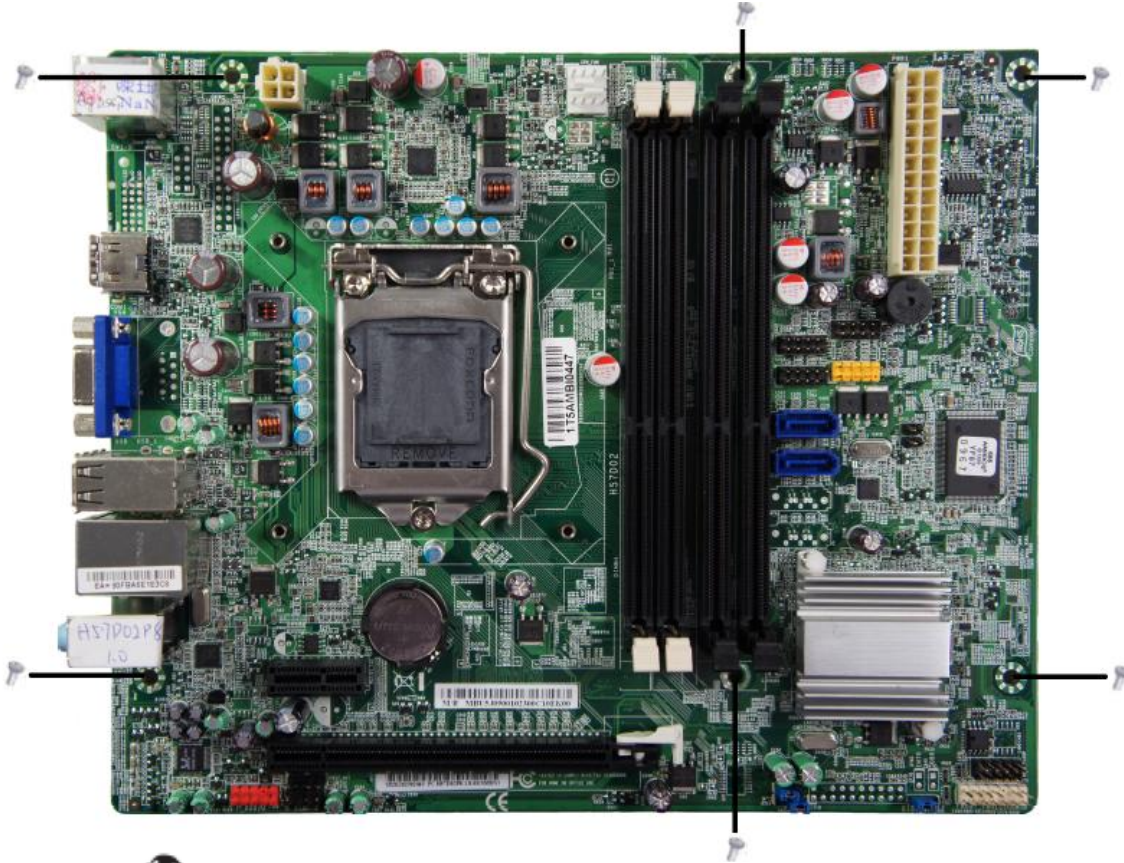
Most system cases have mounting brackets installed in the case, which correspond the holes in the motherboard. Place the motherboard over the mounting brackets and secure the motherboard onto the mounting brackets with screws.

Ensure that your case has an I/O template that supports the I/O ports and expansion slots on your motherboard.

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## Checking Jumper Settings

This section explains how to set jumpers for correct configuration of the motherboard.

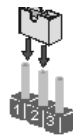


Do not over-tighten the screws as this can stress the motherboard.

### ***Setting Jumpers***

Use the motherboard jumpers to set system configuration options. Jumpers with more than one pin are numbered. When setting the jumpers, ensure that the jumper caps are placed on the correct pins.

The illustrations show a 2-pin jumper. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN.

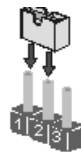


SHORT



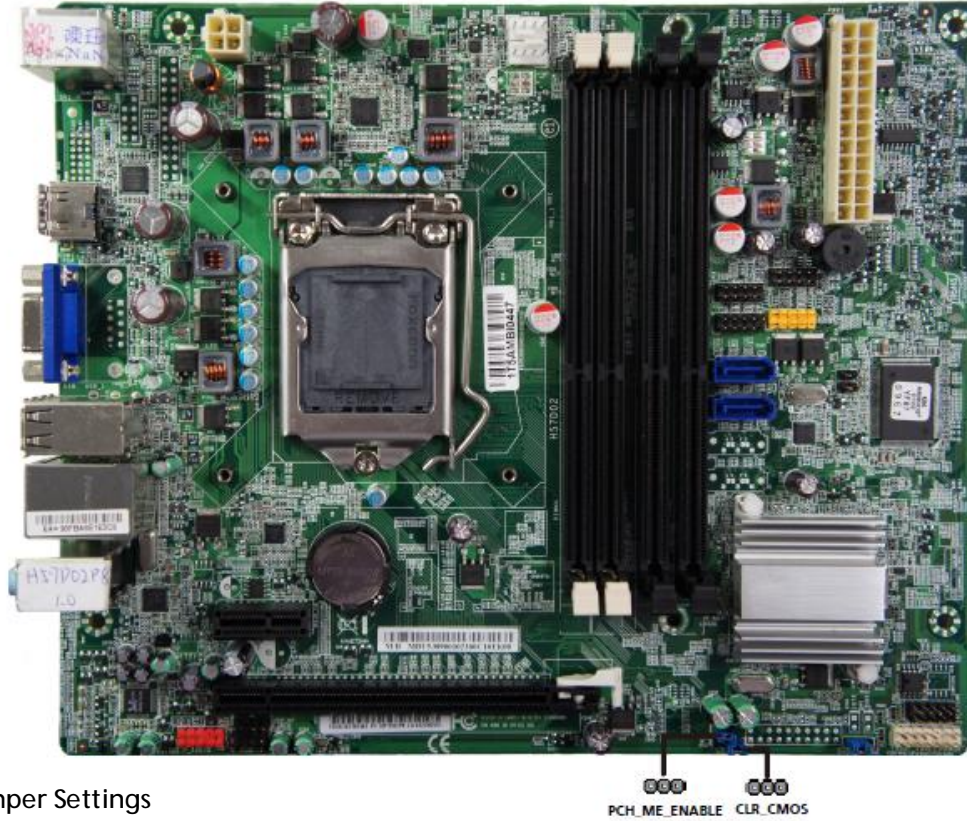
OPEN

This illustration shows a 3-pin jumper. Pins 1 and 2 are SHORT





## Checking Jumper Settings

The following illustration shows the location of the motherboard jumpers. Pin 1 is labeled.



Jumper Settings

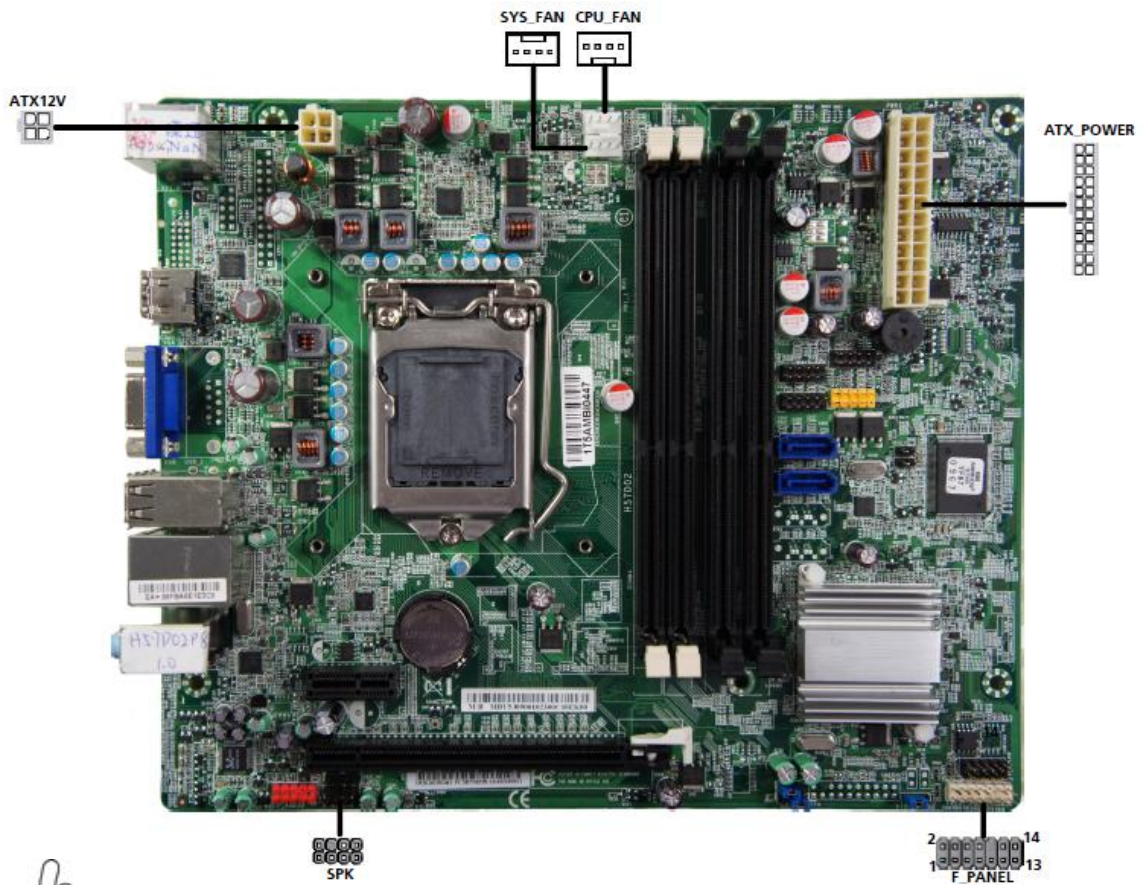
Jumper	Type	Description	Setting (Default)	Illustration
CLR_CMOS	3-pin	CLEAR CMOS	1-2: NORMAL. 2-3: CLEAR  Before clearing the CMOS, make sure to turn the system off	1  CLR_COMS
ME_ENABLE	3-pin	MEENABLE	1-2: NORMAL. 2-3: CLEAR	1  ME_DISABLE

---

## Connecting Case Components

After you have installed the motherboard into a case, you can begin connecting the motherboard components. Refer to the following:

- 1 Connect the CPU cooling fan cable to **CPU\_FAN**.
- 2 Connect the standard power supply connector to **ATX\_POWER**
- 3 Connect the auxiliary case power supply connector to **ATX12V**.
- 4 Connect the case switches and indicator LEDs to the **F\_PANEL**.
- 5 Connect the system cooling fan connector to **SYS\_FAN**.
6. Connect the case speaker cable to **SPK**.



### Connecting 24-pin power cable



24-pin power cable

Users please note that when installing 24-pin power cable, the latch of power cable falls on the left side of the ATX\_POWER1 connector latch, just as the picture shows.

---

**CPU\_FAN: Cooling Fan Power Connectors**

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor
4	PWM	CPU FAN control

**SYS\_FAN: Cooling Fan Power Connector**

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor

**ATX\_POWER:ATX 24-pin Power Connector**

Pin	Signal Name	Pin	Signal Name
1	+3.3V	13	+3.3V
2	+3.3V	14	-12V
3	Ground	15	COM
4	+5V	16	PS_ON
5	Ground	17	Ground
6	+5V	18	Ground
7	Ground	19	Ground
8	PWRGD	20	-5V
9	+5VSB	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	+3.3V	24	Ground

**ATX12V: ATX 12V Power Connector**

Pin	Signal Name
1	Ground
2	Ground
3	+12V
4	+12V

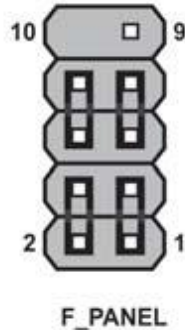
**SPK: Internal speaker**

Pin	Signal Name	Pin	Signal Name
1	Output	2	GND
3	Output	4	Ground
5	GND	6	GND
7	N/A	8	VCC

---

## Front Panel Header

The front panel header (PANEL1) provides a standard set of switch and LED headers commonly found on ATX or Micro ATX cases. Refer to the table below for information:



Pin	Signal Name	Function	Pin	Signal Name	Function
1	HD_LED_P	Hard disk LED(+)	2	FP PWR/SLP	*MSG LED(+)
3	HD_LED_N	Hard disk LED(-)	4	FP PWR/SLP	*MSG LED(-)
5	RST_SW_N	Reset Switch(-)	6	PWR_SW_P	Power Switch(+)
7	RST_SW_P	Reset Switch(+)	8	PWR_SW_N	Power Switch(-)
9	RSVD	Reserved	10	Key	No pin

### Hard Drive Activity LED

Connecting pins 1 and 3 to a front panel mounted LED provides visual indication that data is being read from or written to the hard drive. For the LED to function properly, an IDE drive should be connected to the onboard IDE interface. The LED will also show activity for devices connected to the SCSI (hard drive activity LED) connector.

### Power/Sleep/Message waiting LED

Connecting pins 2 and 4 to a single or dual-color, front panel mounted LED provides power on/off, sleep, and message waiting indication.

### Reset Switch

Supporting the reset function requires connecting pin 5 and 7 to a momentary-contact switch that is normally open. When the switch is closed, the board resets and runs POST.

### Power Switch

Supporting the power on/off function requires connecting pins 6 and 8 to a momentary-contact switch that is normally open. The switch should maintain contact for at least 50 ms to signal the power supply to switch on or off. The time requirement is due to internal de-bounce circuitry. After receiving a power on/off signal, at least two seconds elapses before the power supply recognizes another on/off signal.

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## Installing Hardware

### Installing the Processor



**Caution:** When installing a CPU heatsink and cooling fan make sure that you **DO NOT** scratch the motherboard or any of the surface-mount resistors with the clip of the cooling fan. If the clip of the cooling fan scrapes across the motherboard, you may cause serious damage to the motherboard or its components.

*On most motherboards, there are small surface-mount resistors near the processor socket, which may be damaged if the cooling fan is carelessly installed.*

*Avoid using cooling fans with sharp edges on the fan casing and the clips. Also, install the cooling fan in a well-lit work area so that you can clearly see the motherboard and processor socket.*

### Before installing the Processor

This motherboard automatically determines the CPU clock frequency and system bus frequency for the processor. You may be able to change these settings by making changes to jumpers on the motherboard, or changing the settings in the system Setup Utility. We strongly recommend that you do not over-clock processors or other components to run faster than their rated speed.



**Warning:** Over-clocking components can adversely affect the reliability of the system and introduce errors into your system. Over-clocking can permanently damage the motherboard by generating excess heat in components that are run beyond the rated limits.

This motherboard has an LGA1156 socket. When choosing a processor, consider the performance requirements of the system. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory.

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## CPU Installation Procedure

The following illustration shows CPU installation components.

- A. Opening of the Load Plate Put your thumb on the tail of the load plate and press the tail down Rotate the load plate to fully open position.
- B. Disengaging of the Load Lever Hold the hook of lever and pull it to the left side to clear retention tab. Rotate the load lever to fully open position.
- C. Removing the Cap Be careful not to touch the contact at any time.
- D. Inserting the Package Grasp the package. Ensure to grasp on the edge of the substrate. Make sure pin 1 indicator is on your bottom-left side. Aim at the socket and place the package carefully into the socket by purely vertical motion.
- E. Closing the Load Plate Rotate the load plate onto the package IHS (Intergrated Heat Spreader). Engage the load lever while pressing down lightly onto the load plate. Secure the load lever with the hook under retention tab.
- F. Fasten the cooling fan supporting base onto the CPU socket on the motherboard.
- G. Make sure the CPU fan is plugged to the CPU fan connector. Please refer to the CPU cooling fan user's manual for more detail installation procedure.



1. To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 3800 rpm at least. CPU fan and heatsink installation procedures may vary with the type of CPU fan/ heatsink supplied. The form and size of fan/heatsink may also vary.
2. DO NOT remove the CPU cap from the socket before installing a CPU.
3. Return Material Authorization (RMA) requests will be accepted only if the motherboard comes with the cap on the LGA1156 socket.





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## Installing Memory Modules

This motherboard accommodates two memory modules. It can support four 240-pin DR3 1066/1333. The total memory capacity is 16 GB.

### DDR3 SDRAM memory module table

Memory	Memory Bus
DDR3 1066	533 MHz
DDR3 1333	667 MHz



*Do not remove any memory module from its antistatic packaging until you are ready to install it on the motherboard. Handle the modules only by their edges. Do not touch the components or metal parts. Always wear a grounding strap when you handle the modules.*

## Installation Procedure

Refer to the following to install the memory modules.

1. This motherboard supports unbuffered DDR3 SDRAM only.
2. Push the latches on each side of the DIMM slot down.
3. Align the memory module with the slot. The DIMM slots are keyed with notches and the DIMMs are keyed with cutouts so that they can only be installed correctly.
4. Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.
5. Install the DIMM module into the slot and press it firmly down until it seats correctly. The slot latches are levered upwards and latch on to the edges of the DIMM.
6. Install any remaining DIMM modules.



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### Installing Serial ATA Hard Drives

To install the Serial ATA (SATA) hard drives, use the SATA cable that supports the Serial ATA protocol. This SATA cable comes with an SATA power cable. You can connect either end of the SATA cable to the SATA hard drive or the connector on the motherboard.



**SATA cable (optional)**



**SATA power cable (optional)**

Refer to the illustration below for proper installation:

1. Attach either cable end to the connector on the motherboard.
2. Attach the other cable end to the SATA hard drive.
3. Attach the SATA power cable to the SATA hard drive and connect the other end to the power supply.



*This motherboard does not support the "Hot-Plug" function.*

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## Installing Add-on Cards

The slots on this motherboard are designed to hold expansion cards and connect them to the system bus. Expansion slots are a means of adding or enhancing the motherboard's features and capabilities. With these efficient facilities, you can increase the motherboard's capabilities by adding hardware that performs tasks that are not part of the basic system.



### ***PCIEX16 Slot***

The PCI Express x16 slot is used to install an external PCI Express graphics card that is fully compliant to the PCI Express Base Specification revision 2.0

### ***PCIEX1 Slot***

The PCI Express x1 slot is fully compliant to the PCI Express Base Specification revision 2.0 as well.



*Before installing an add-on card, check the documentation for the card carefully. If the card not Plug and Play, you may have to manually configure the card before installation.*

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Follow these instructions to install an add-on card:

1. Remove a blanking plate from the system case corresponding to the slot you are going to use.
2. Install the edge connector of the add-on card into the expansion slot. Ensure that the edge connector is correctly seated in the slot.
3. Secure the metal bracket of the card to the system case with a screw.



*1. For some add-on cards, for example graphics adapters and network adapters, you have to install drivers and software before you can begin using the add-on card.*

*2. The onboard PCI interface does not support 64-bit SCSI cards.*

## Connecting Optional Devices

Refer to the following for information on connecting the motherboard's optional devices:



### F\_AUDIO1: Front Panel Audio header

This header allows the user to install auxiliary front-oriented microphone and line-out ports for easier access.

Pin	Signal Name	Pin	Signal Name
1	PORT 1L	2	AUD_GND
3	PORT 1R	4	PRESENCE#
5	PORT 2R	6	SENSE1_RETURN
7	SENSE_SEND	8	KEY
9	PORT 2L	10	SENSE2_RETURN

### GPIO1~2: Button recovery jumper

Pin	Signal Name	Pin	Signal Name
1	GP36(GP16)	2	GND

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#### SATA 1~4: Serial ATA connectors

These connectors are used to support the new Serial ATA devices for the highest data transfer rates (3 Gb/s), simpler disk drive cabling and easier PC assembly. It eliminates limitations of the current Parallel ATA interface. But maintains register compatibility and software compatibility with Parallel ATA.

Pin	Signal Name	Pin	Signal Name
1	Ground	2	TX+
3	TX-	4	Ground
5	RX-	6	RX+
7	Ground	-	-

#### SPDIFO: SPDIF out header(Optional)

This is an optional header that provides an S/PDIF (Sony/Philips Digital Interface) output to digital multimedia device through optical fiber or coaxial connector.

Pin	Signal Name	Function
1	+5VA	5V analog Power
2	Key	No pin
3	SPDIF	SPDIF digital output
4	GND	Ground

#### F\_USB1~4: Front Panel USB headers

The motherboard has four USB ports installed on the rear edge I/O port array. Additionally, some computer cases have USB ports at the front of the case. If you have this kind of case, use auxiliary USB connector to connect the front-mounted ports to the motherboard.

Pin	Signal Name	Function
1	USBPWR	Front Panel USB Power
2	USBPWR	Front Panel USB Power
3	USB_FP_P0-	USB Port0 Negative Signal
4	USB_FP_P1-	USB Port1 Negative Signal
5	USB_FP_P0+	USB Port0 Positive Signal
6	USB_FP_P1+	USB Port1 Positive Signal
7	GND	Ground
8	GND	Ground
9	Key	No pin
10	USB_FP_OC0	Overcurrent signal



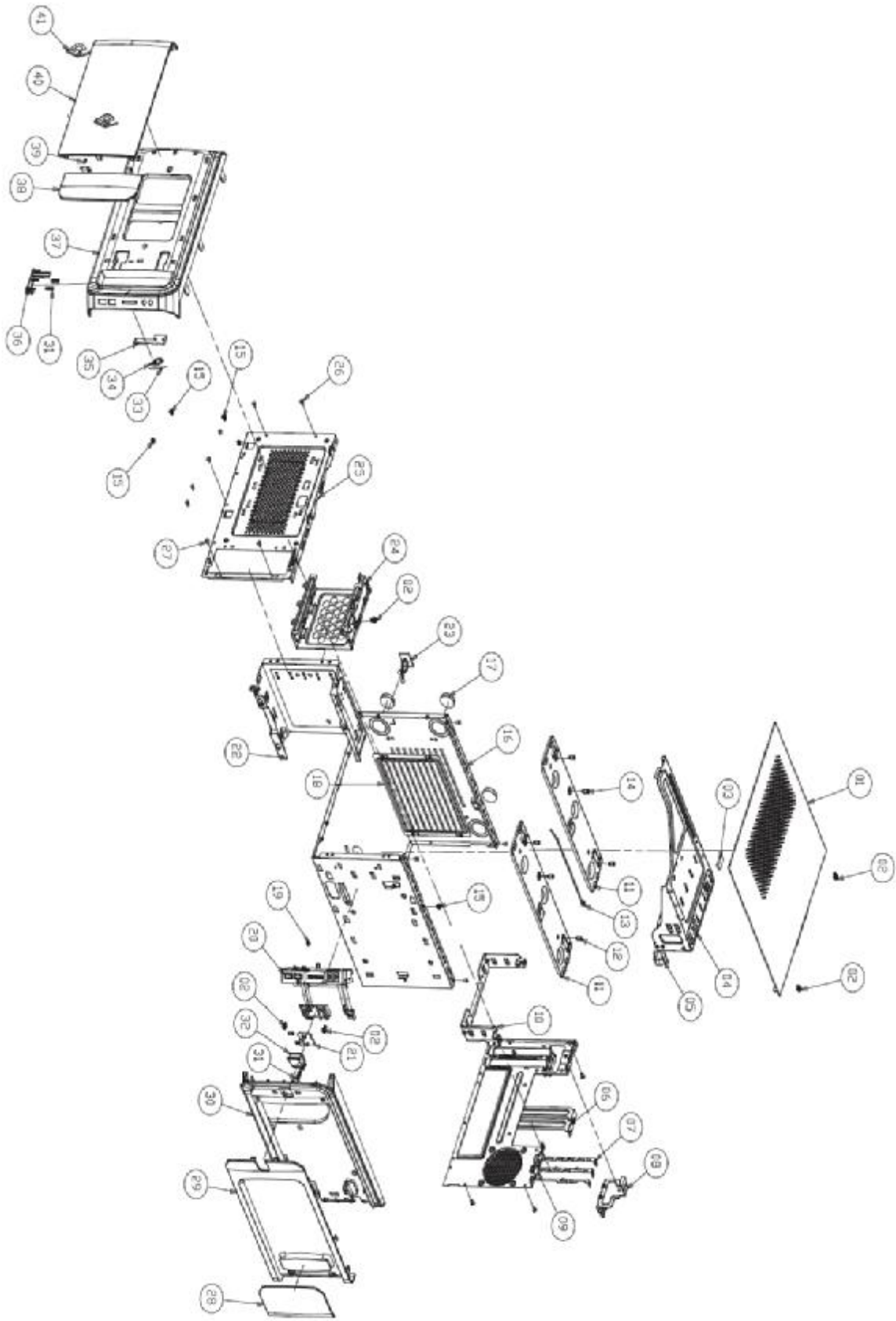
*Please make sure that the USB cable has the same pin assignment as indicated above. A different pin assignment may cause damage or system hang-up.*

## FRU (Field Replaceable Unit) List

### Exploded Diagram

#### *Chassis\_P5-15L w/ card reader ME BOM*

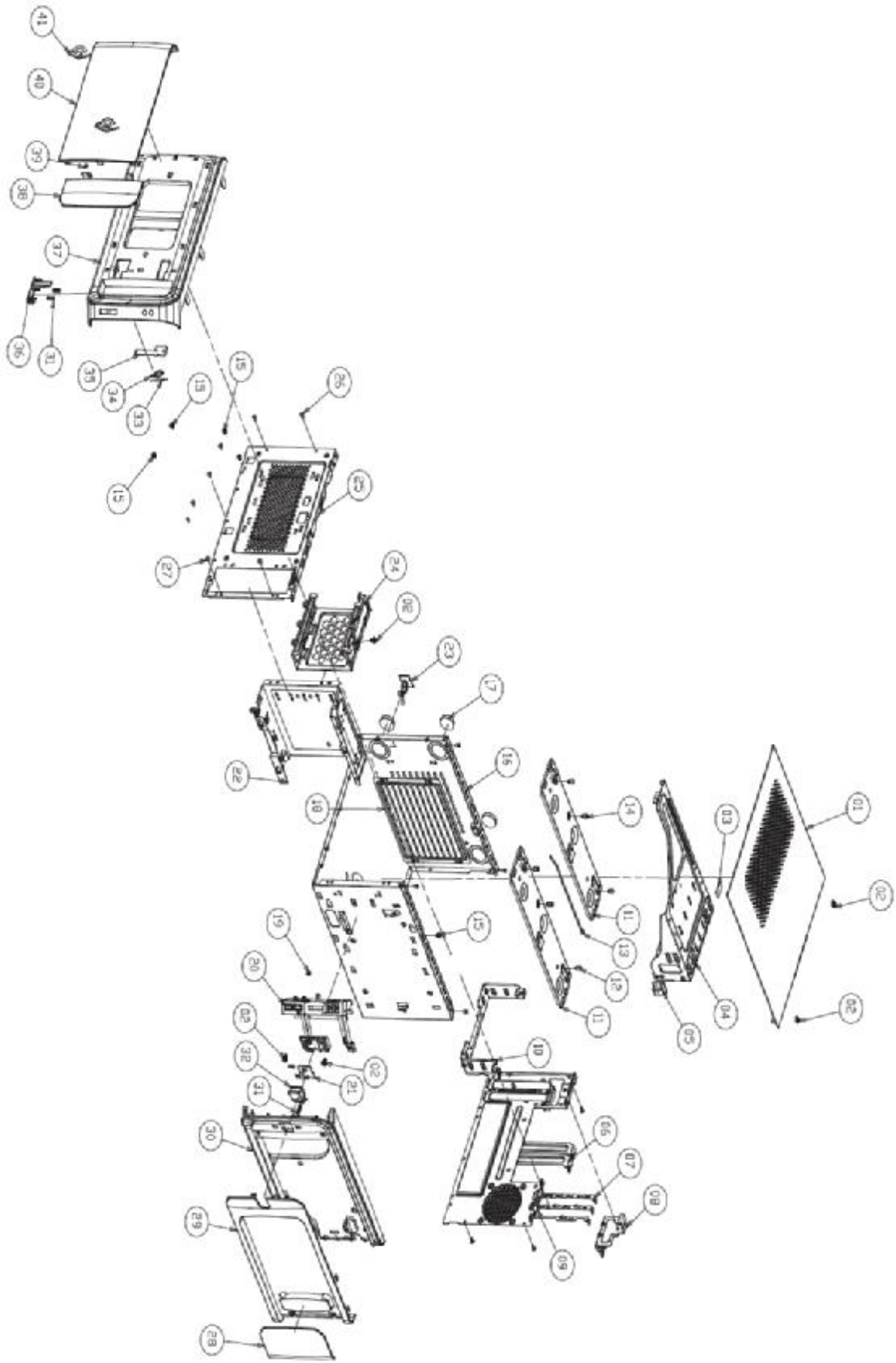
Item	Description	Item	Description
1	SM_SIDE_COVER	22	SM_ODD_CAGE
2	SCREW-6-32-6L	23	WCL-10
3	RUBBER_FOR_POWER_BKT	24	SM_HDD_CAGE
4	SM_POWER_BKT	25	SM_FRONT_PLATE
5	CABLE CLIP	26	RIVET_32_FLAT_HEAD
6	SM_PCI_SLOT_COVER	27	RIVET_32_UMBRELLA_HEAD
7	SM_PCI_EMI_SHIELDING	28	TOP COVER CABLE ROUTING
8	SM_PCI_CLAMP	29	TOP-COVER
9	SM_REAR_PLATE	30	TOP-MAIN_BEZEL
10	SM_POWER_ASM_BKT	31	SPRING_ODD_EJECTION
11	SM_MB_BKT	32	POWER BUTTOM
12	STANDOFF	33	MYLAR
13	CLIP	34	HDD-LENS
14	STANDOFF_FIX	35	EJECT_CONNECT
15	SCREW-FOR-ODD_CAGE	36	EJECT-BOTTOM
16	SM_C_BASE	37	FRONT-MAIN_BEZEL-W_CR
17	CHASSIS FOOT	38	ODD-DOOR
18	SM_DUST_COVER	39	SPRING_DOOR_ODD
19	LED HOUSING	40	FRONT-COVER
20	CARD READER USB CABLE ASSY (with card reader)	41	PB LOGO
21	POWER PCB		





**Chassis\_P5-15L w/o card reader ME BOM**

Item	Description	Item	Description
1	SM_SIDE_COVER	22	SM_ODD_CAGE
2	SCREW-6-32-6L	23	WCL-10
3	RUBBER_FOR_POWER_BKT	24	SM_HDD_CAGE
4	SM_POWER_BKT	25	SM_FRONT_PLATE
5	CABLE CLIP	26	RIVET_32_FLAT_HEAD
6	SM_PCI_SLOT_COVER	27	RIVET_32_UMBRELLA_HEAD
7	SM_PCI_EMI_SHIELDING	28	TOP COVER CABLE ROUTING
8	SM_PCI_CLAMP	29	TOP-COVER
9	SM_REAR_PLATE	30	TOP-MAIN_BEZEL
10	SM_POWER_ASM_BKT	31	SPRING_ODD_EJECTION
11	SM_MB_BKT	32	POWER BUTTOM
12	STANDOFF	33	MYLAR
13	CLIP	34	HDD-LENS
14	STANDOFF_FIX	35	EJECT_CONNECT
15	SCREW-FOR-ODD_CAGE	36	EJECT-BOTTOM
16	SM_C_BASE	37	FRONT-MAIN_BEZEL-W_CR
17	CHASSIS FOOT	38	ODD-DOOR
18	SM_DUST_COVER	39	SPRING_DOOR_ODD
19	LED HOUSING	40	FRONT-COVER
20	USB CABLE ASSY (without card reader)	41	PB LOGO
21	POWER PCB		



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## FRU List

The FRU list will be updated later.