

Acer Aspire R3610 Service Guide

Service guide files and updates are available on the ACER/CSD web; for more information, please refer to <http://csd.acer.com.tw>

PRINTED IN TAIWAN

Revision History

Please refer to the table below for the updates made on this service guide.

| Date | Chapter | Updates |
|------|---------|---------|
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| | | |

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Conventions

The following conventions are used in this manual:

| | |
|------------------------|--|
| SCREEN MESSAGES | Denotes actual messages that appear on screen. |
| NOTE | Gives additional information related to the current topic. |
| WARNING | Alerts you to any physical risk or system damage that might result from doing or not doing specific actions. |
| CAUTION | Gives precautionary measures to avoid possible hardware or software problems. |
| IMPORTANT | Reminds you to do specific actions relevant to the accomplishment of procedures. |

Service Guide Coverage

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.

FRU Information

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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System Tour

Features

Below is a brief summary of the computer's many feature:

NOTE: The features listed in this section is for your reference only. The exact configuration of the system depends on the model purchased.

Operating System

- Microsoft Windows 7 Home Premium X64
- Microsoft Windows 7 Home Premium X32 (by request)
- Microsoft Windows 7 Home Basic (by request)
- Linpus Linux X-windows version
- Free Dos

Processor

- Socket Type: None
- Processor Type:
 - Intel Atom 330
 - TDP below 8W(include 8W)

Chipset

- Single chip :Nvidia MCP7A-ION

PCB

- 170mm*170mm (Proprietary)

Memory subsystem

- Memory Type: DDRII SO-DIMM 800
- Single channel for 1 SO-DIMM SKU
- Dual channel support for reserved 2 SO-DIMM SKU
- DIMM Slot: 2
- Capacity support:
 - 512MB / 1GB / 2GB DDRII 800 SO-DIMM support
 - 512MB to 4GB Max memory support
- Design Criteria:
 - Should meet NV Chipset platform design guide
 - Dual channel should be enabled always when plug-in 2 same memory size DDRII memory module
 - Should meet NV Chipsets Family BIOS Specification

Graphic solution

- NV MCP7A-ION on die graphic solution (GF9400)

-
- One D-sub port and One HDMI (Type-A) port
 - Dual View function support
 - Meet Microsoft Vista Premium graphic requirement

Hard disk

- Support up to one SATA ports
- 2.5"
- Capacity and models are listed on AVLC

Optical disk

- None

Serial ATA controller

- Slot Type: SATA connector
- Slot Quantity: 1
- Storage Type support: AHCI mode supported for internal SATA port
- Slot Type :e-SATA connector :
 - One e-SATA support on front

Audio

- Chip : Realtek ALC662
- Connectors support:
 - Audio jacks color coding: should meet Microsoft Windows Logo Program Device Requirements: Audio-0002
 - Front 2 jack follow HD audio definition
 - Add HD de-pop CKT

LAN

- Controller: Realtek 8211CL
- Port: 1 x RJ45 rear port for Gigabit Ethernet

USB ports

- Controller: NV MCP7A-ION
- 4 back panel ports
- 2 ports for front daughter board
- Connector Pin: standard Intel FPIO pin definition
- USB 2.0/1.1Data transfer rate support

Extension slot

- Support one Mini PCIe slot

Total I/O ports

- One HDMI output in real I/O
- One D-sub output in real I/O
- Four USB in real I/O
- One RJ45 in real I/O

-
- One DC-in jack in rear I/O
 - One e-SATA port in front bezel
 - One HD headphone output in front bezel
 - One MIC-IN in front bezel
 - Two USB in front bezel
 - One card reader (4 in 1: XD/SD/MMC/MS) in front bezel
 - One S/PDIF port

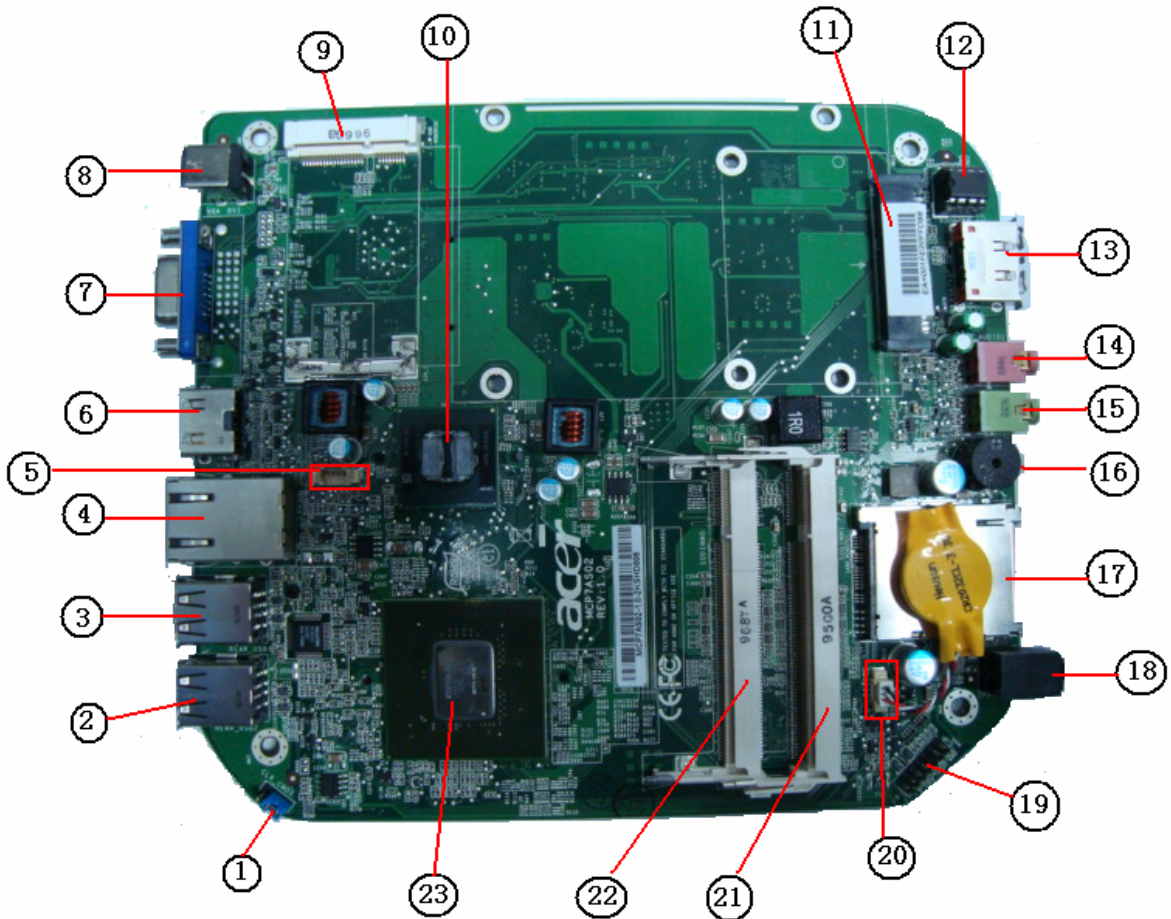
System BIOS

- BIOS Type: AMI Kernel with Acer skin
- Size: 8Mb(depend on chipset BIOS programming guide)
- Note:
 - Boot ROM should be included (PXE function should be built in with default and RPL function is optional by service BIOS)

Adapter

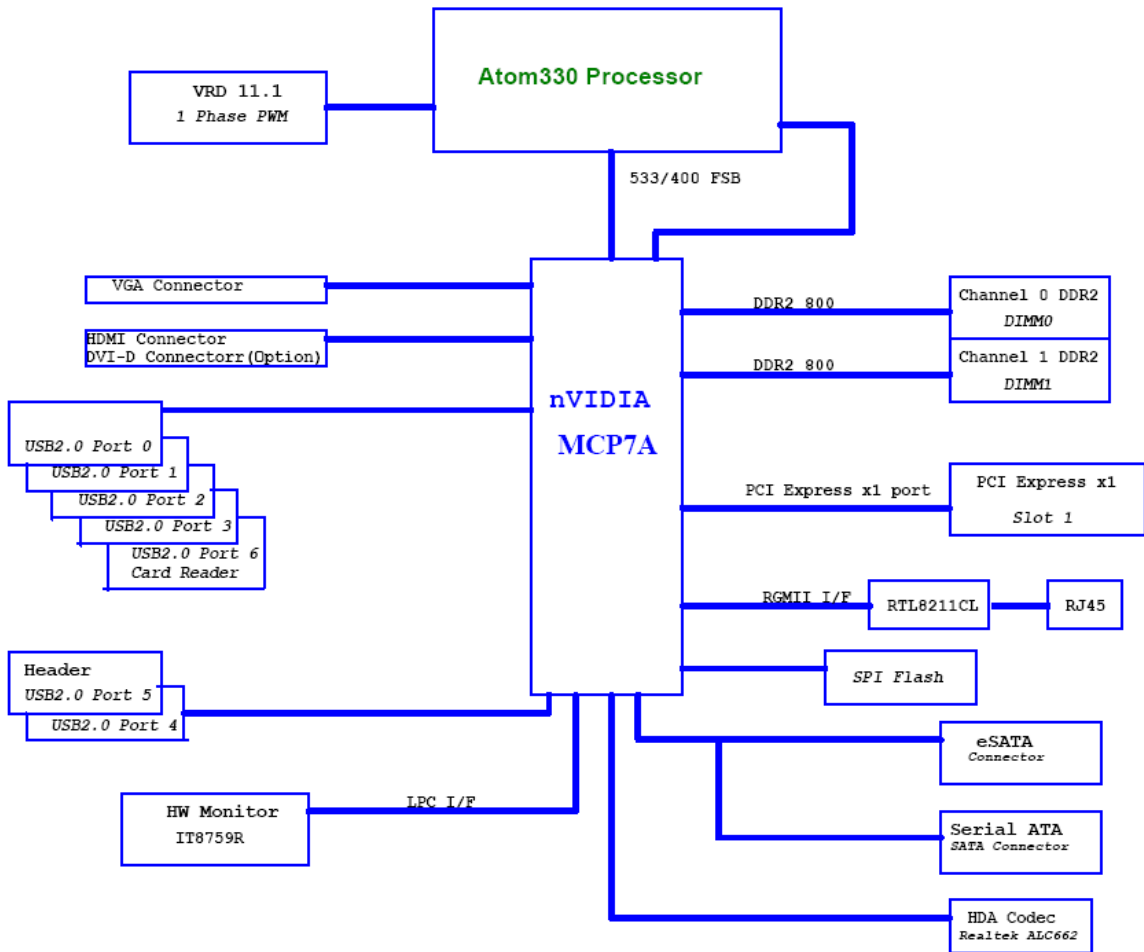
- Universal AC adapter, 90~264V AC, 47~63HZ
- 3-pin 65W with 19VDC output
- Small DC jack
- Energy Star5.0 support

M/B Placement



| No | Label | Description | No | Label | Description |
|----|-----------|------------------------------|----|-------------|-----------------------------------|
| 1 | CLR_CMOS | Clear CMOS header and jumper | 13 | ESATA | External SATA |
| 2 | Rear_USB2 | Rear USB ports | 14 | MIC IN | Audio mic-in connector |
| 3 | Rear_USB1 | Rear USB ports | 15 | Line out | Audio line-out connector |
| 4 | LAN_CONN | Lan connector | 16 | Buzzer | Buzzer, Transducer, 5V, 40mA, 2W, |
| 5 | SYS_FAN | System fan header | 17 | Card reader | CONN, Flash Memory Card |
| 6 | HDMI | HDMI connector | 18 | SPDIF | SPDIF header |
| 7 | VGA | VGA connector | 19 | Front Panel | Front Panel header |
| 8 | DCIN_CONN | 19V DC power in connector | 20 | BAT header | Battery header |
| 9 | MiniPCIE | miniPCIE connector | 21 | SODIMM1 | CONN, DIMM, DDR II, SMD-200 |
| 10 | CPU | IC, INTEL, Atom N330 | 22 | SODIMM0 | CONN, SO-DIMM, DDR II, SMD-200 |
| 11 | SATA_HDD | SATA HDD connector | 23 | MCP7A | IC, NVIDIA, MCP7A-ION-B2 |
| 12 | SPI_ROM | SPI ROM socket | | | |

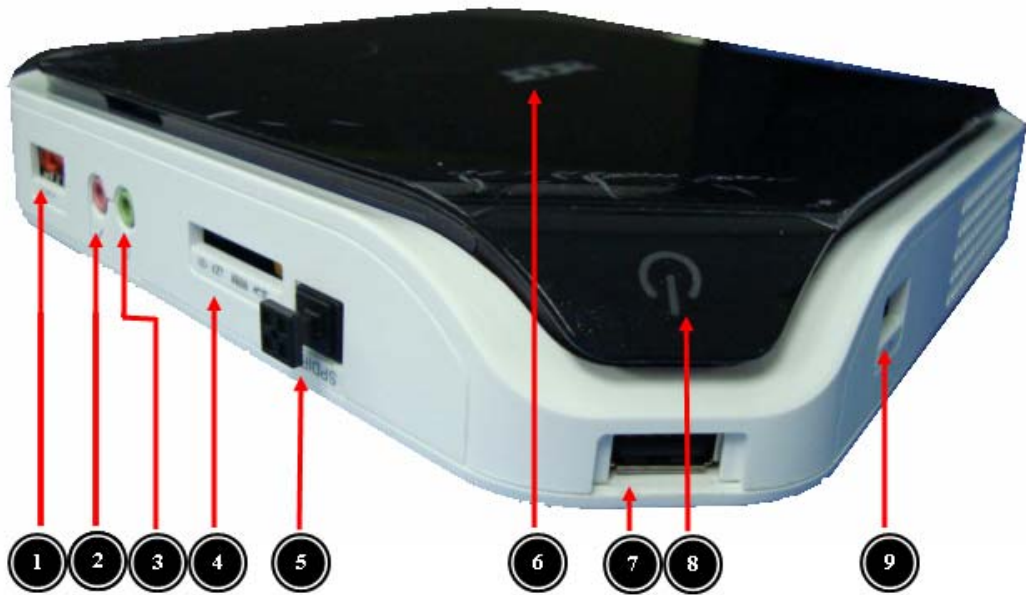
Block Diagram



System Components

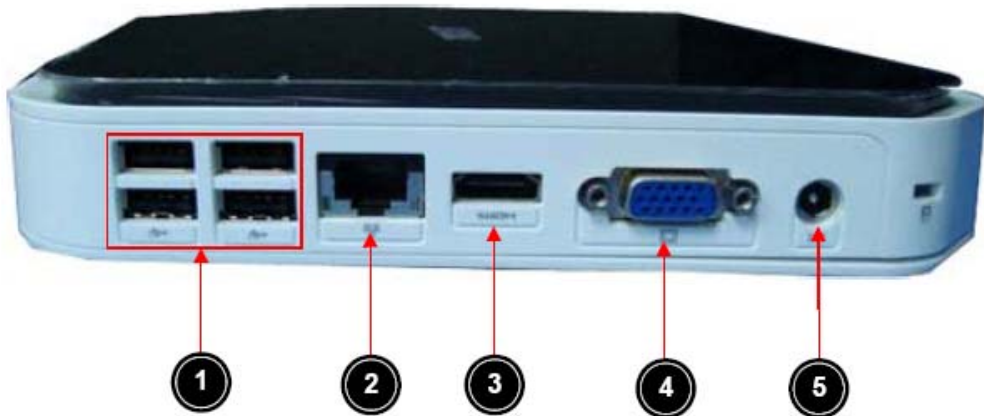
This section is a virtual tour of the system's interior and exterior components.

Front Panel



| No. | Component |
|-----|--|
| 1 | e-SATA port |
| 2 | Microphone-in jack |
| 3 | Headphone/Speaker-out/line-out jack |
| 4 | Media card reader (4 in 1: XD/SD/MMC/MS) |
| 5 | SPDIF |
| 6 | Acer Logo |
| 7 | USB 2.0 port |
| 8 | Power Button |
| 9 | USB 2.0 port |

Rear Panel



| No. | Component |
|-----|------------------|
| 1 | 4 X USB 2.0 port |
| 2 | LAN Connector |
| 3 | HDMI Connector |
| 4 | D-sub Connector |
| 5 | DC-in Jack |

Power Management Function(ACPI support function)

Device Standby Mode

- Independent power management timer for hard disk drive devices(0-15 minutes,time step=1minute).
- 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 3-5sec.

Global Standby Mode

- Global power management timer(2-120minutes,time step=10minute).
- 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: Resume to original state by pushing external switch Button,modem ring in,keyboard an mouse for APM mode.
- Resume recovery time :7-10sec

Suspend Mode

- Independent power management timer(2-120minutes,time step=10minute)or pushing extern switch button.
- CPU goes into SMM
- CPU asserts STPCLK# and goes into the Stop Grant State.
- LED on 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: Resume to original state by pushing external switch Button,modem ring in,keyboard an mouse for APM mode
- Return to original state by pushing external switch button,modem ring inand USB keyboard for ACPI mode.

ACPI

- ACPI specification 1.0b
- S0,S1,S2 and S5 sleep state support.
- On board device power management support.
- On board device configuration support.

System Utilities

CMOS Setup Utility

CMOS setup is a hardware configuration program built into the system ROM, called the complementary metal-oxide semiconductor (CMOS) Setup Utility. Since most systems are already properly configured and optimized, there is no need to run this utility. You will need to run this utility under the following conditions.

- q When changing the system configuration settings
- q When redefining the communication ports to prevent any conflicts
- q When modifying the power management configuration
- q When changing the password or making other changes to the security setup
- q When a configuration error is detected by the system and you are prompted ("Run Setup" message) to make changes to the CMOS setup

NOTE: If you repeatedly receive Run Setup messages, the battery may be bad. In this case, the system cannot retain configuration values in CMOS. Ask a qualified technician for assistance.

CMOS setup loads the configuration values in a battery-backed nonvolatile memory called CMOS RAM. This memory area is not part of the system RAM which allows configuration data to be retained when power is turned off.

Before you run the *CMOS Setup Utility*, make sure that you have saved all open files. The system reboots immediately after you close the Setup.

NOTE: *CMOS Setup Utility* will be simply referred to as "BIOS", "Setup", or "Setup utility" in this guide.

The screenshots used in this guide display default system values. These values may not be the same those found in your system.

Entering CMOS setup

1. Turn on the server and the monitor.

If the server is already turned on, close all open applications, then restart the server.

2. During POST, press **Delete**.

If you fail to press **Delete** before POST is completed, you will need to restart the server.

The Setup Main menu will be displayed showing the Setup's menu bar. Use the left and right arrow keys to move between selections on the menu bar.

Navigating Through the Setup Utility

Use the following keys to move around the Setup utility.

- q **Left** and **Right** arrow keys – Move between selections on the menu bar.
- q **Up** and **Down** arrow keys – Move the cursor to the field you want.
- q **PgUp** and **PgDn** keys – Move the cursor to the previous and next page of a multiple page menu.
- q **Home** – Move the cursor to the first page of a multiple page menu.
- q **End** – Move the cursor to the last page of a multiple page menu.
- q **+** and **-** keys – Select a value for the currently selected field (only if it is user-configurable). Press these keys repeatedly to display each possible entry, or the **Enter** key to choose from a pop-up menu.

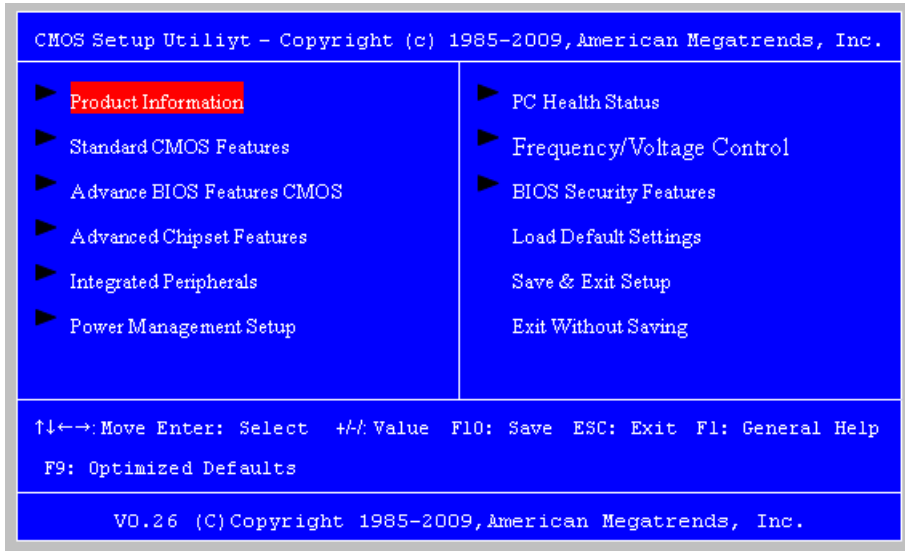
NOTE: Grayed-out fields are not user-configurable.

- q **Enter** key – Display a submenu screen.

NOTE: Availability of submenu screen is indicated by a (>).

- q **Esc** – If you press this key:
 - q On one of the primary menu screens, the Exit menu displays.
 - q On a submenu screen, the previous screen displays.
 - q When you are making selections from a pop-up menu, closes the pop-up without making a selection.
- q **F1** – Display the General Help panel.
- q **F6** – Press to load optimized default system values.
- q **F7** – Press to load fail-safe default system values.
- q **F10** – Save changes made the Setup and close the utility.

Setup Utility Menus



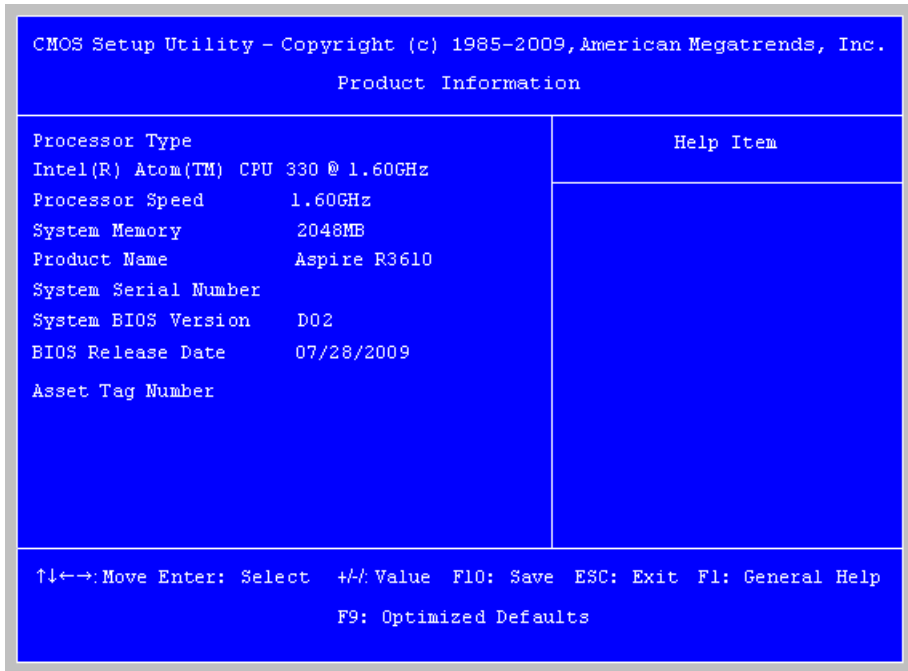
The Setup Main menu includes the following main setup categories.

| Parameter | Description |
|----------------------------|---|
| Product Information | This page shows the relevant information of the main board |
| Standard CMOS Features | This setup page includes all the items in standard compatible BIOS |
| Advance BIOS Features CMOS | This setup page includes all the items of Award special enhanced features |
| Advanced Chipset Features | This setup page includes all advanced chipset features |
| Integrated Peripherals | This setup page includes all onboard peripherals |
| Power Management Setup | This setup page includes all the items of Green function features |
| PC Health Status | This setup page is the System auto detect Temperature, voltage, and fan speed |
| Frequency/Voltage Control | This setup page is the System Frequency setup |
| BIOS Security Features | Change, set or disable password. It allows you to limit access to the System |
| Load Default Setting | Load Default Setting indicates the value of the system parameters which the system would be in best performance configuration |
| Save & Exit Setup | Save CMOS value settings to CMOS and exit setup |
| Exit Without Saving | Abandon all CMOS value changes and exit setup |

In the descriptive table following each of the menu screenshots, settings in **boldface** are the default and suggested settings.

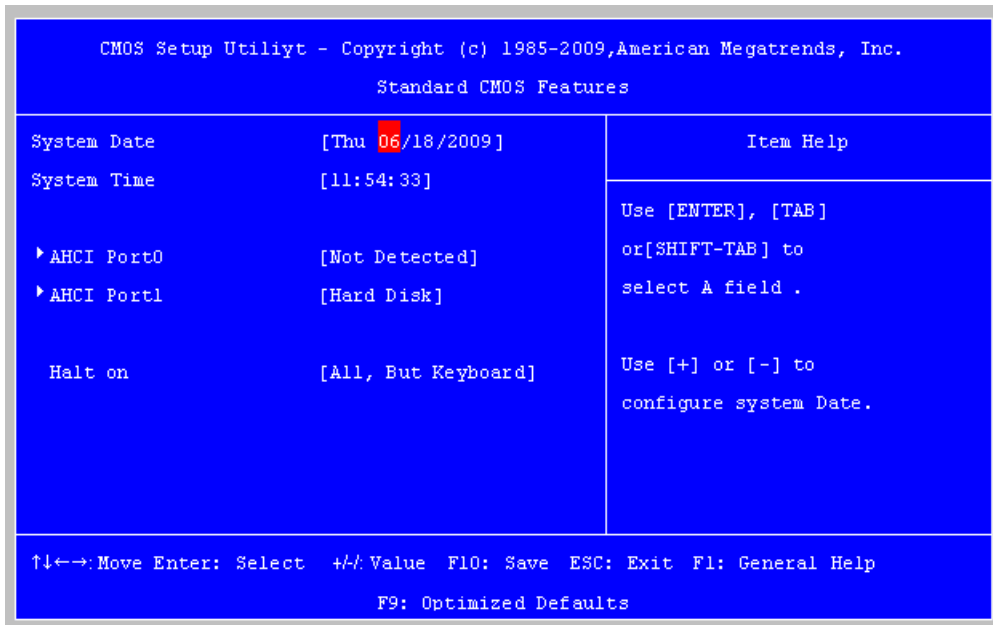
Product Information

The Product Information menu displays basic information about the system. These entries are for your reference only and are not user-configurable.



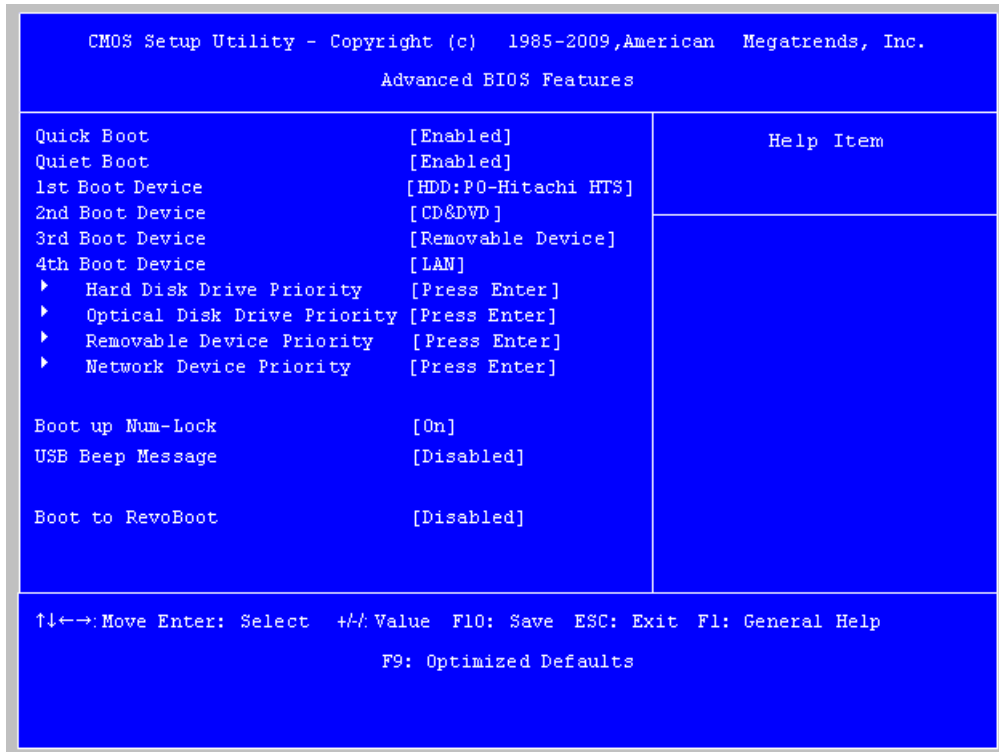
| Parameter | Description |
|----------------------|--|
| Processor Type | Type of CPU installed on the system. |
| Processor Speed | Speed of the CPU installed on the system. |
| System Memory | Total size of system memory installed on the system. |
| Product Name | Product name of the system. |
| System Serial Number | Serial number of the system. |
| System BIOS Version | Version number of the BIOS setup utility. |
| BIOS Release Date | Date when the BIOS setup utility was released |
| Asset Tag Number | Asset tag number of this system. |

Standard CMOS Features



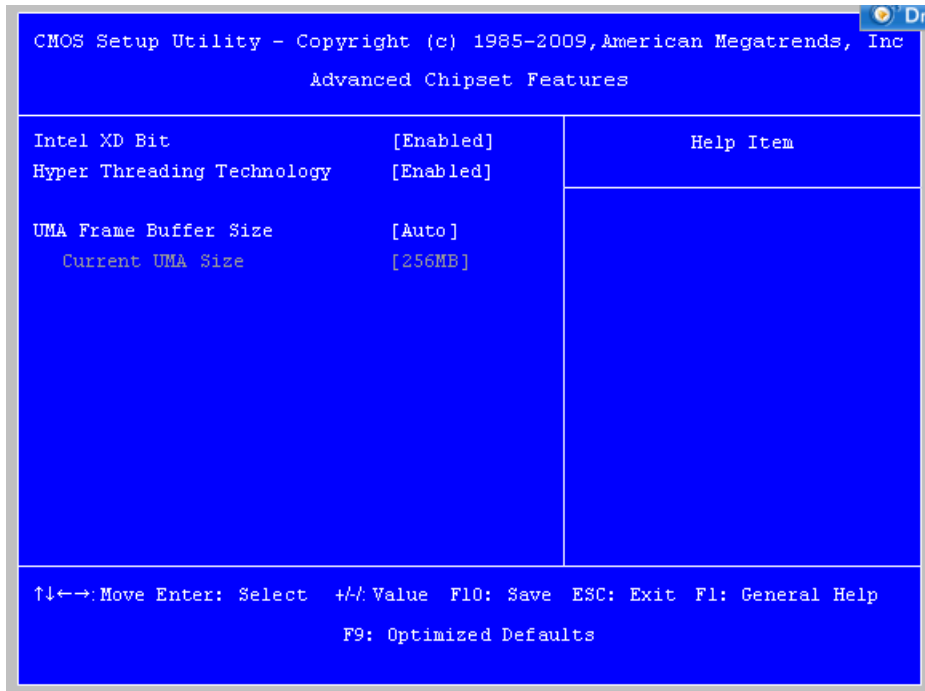
| Parameter | Description | Option |
|---------------|---|---|
| System Date | Set the date following the weekday-month-day-year format. | |
| System Time | Set the system time following the hour-minute-second format. | |
| AHCI Port 0/1 | Press Enter to view detailed device information. | |
| Halt On | Determines whether the system will stop for an error during the POST. | All, But Keyboard No Errors All Errors |

Advanced BIOS Feature



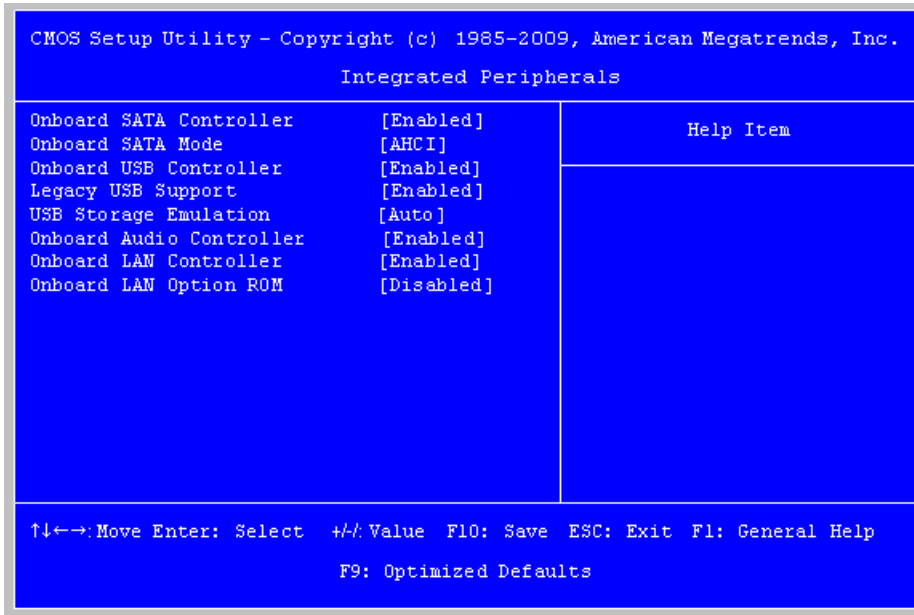
| Parameter | Description | Option |
|-----------------------------|---|---|
| Quick Boot | Allows you to decrease the time it takes to boot the computer by shortening or skipping certain standard booting process. | Enabled Disabled |
| Quiet Boot | When enabled, the BIOS splash screen displays during startup. When disabled, the diagnostic screen displays during startup. | Enabled Disabled |
| 1st/2nd/3rd/4th Boot Device | Specifies the boot order from the available devices. | Hard Disk CD^DVD Removable Device LAN |
| Hard Disk Drive Priority | Press Enter to access the Hard Disk Drive Priority submenu and specify the boot device priority sequence from available hard drives. | |
| Optical Disk Drive Priority | Press Enter to access the Optical Disk Drive Priority submenu and specify the boot device priority sequence from available CD/DVD drives. | |
| Removable Device Priority | Press Enter to access the Removable Device Priority submenu and specify the boot device priority sequence from available removable drives. | |
| Boot up Num-Lock | Selects power on state for Num Lock. | On Off |
| USB Beep Message | Enables or disables BIOS to display error beeps or messages during USB device enumeration. | Disabled Enabled |

Advanced Chipset Features



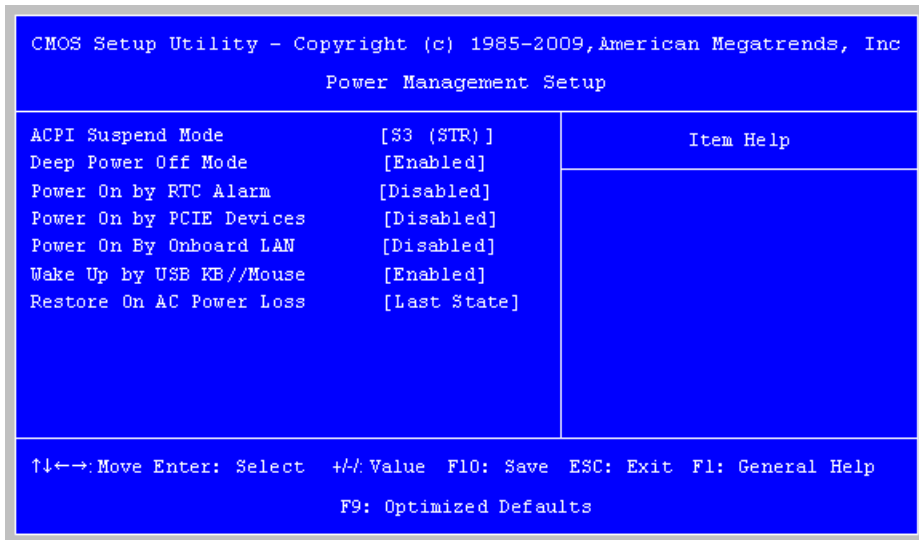
| Parameter | Description | Option |
|----------------------------|---|----------------------------|
| Intel XD Bit | When enabled, the processor disables code execution when a worm attempts to insert a code in the buffer preventing damage and worm propagation. When disabled, the processor forces the Execute Disable (XD) Bit feature flag to always return to 0. | Enabled Disabled |
| Hyper Threading Technology | For Intel platform | Enabled Disabled |

Integrated Peripherals



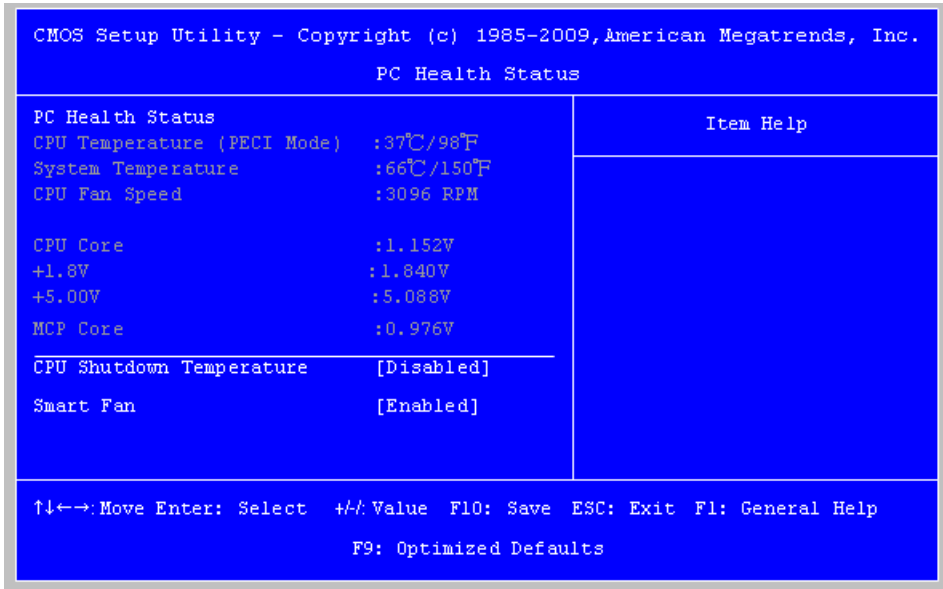
| Parameter | Description | Option |
|--------------------------|---|----------------------------|
| Onboard SATA Controller | Enables or disables the onboard SATA controller. | Enabled Disabled |
| Onboard SATA Mode | Select an operating mode for the onboard SATA. | RAID Native IDE |
| Onboard USB Controller | Enables or disables the onboard USB controller. | Enabled Disabled |
| Legacy USB Support | Enables or disables support for legacy USB devices. | Enabled Disabled |
| Onboard Audio Controller | Enables or disables the onboard audio controller. | Enabled Disabled |
| Onboard LAN Controller | Enables or disables the onboard LAN controller. | Enabled Disabled |
| Onboard LAN Option ROM | Enables or disables the load of embedded option ROM for onboard network controller. | Enabled Disabled |

Power Management Setup



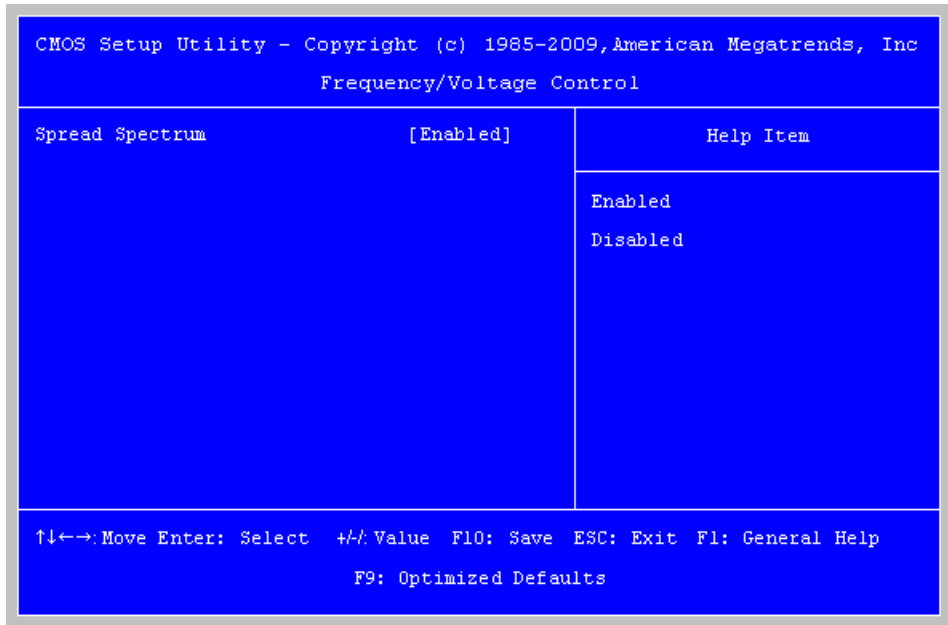
| Parameter | Description | Option |
|--------------------------|--|--|
| ACPI Suspend Mode | Select an ACPI state. | S3 (STR) S1 (POS) |
| Deep Power off Mode | Enables or disables the Deep power off mode | Enabled Disabled |
| Power On by RTC Alarm | Enables or disables to wake up the system by time setting | Enabled Disabled |
| Power On by PCIE Devices | Enables or disables to wake up the system from a power saving mode through an event on PCI Express device. | Enabled Disabled |
| Power On by Onboard Lan | Enables or Disables to wake up the system by Onboard Lan function | Enabled Disabled |
| Wake Up by USB KB/ Mouse | If enabled, press any key or click the mouse will wake system from S1/ S3 state. | Enabled Disabled |
| Restore On AC Power Loss | Enables or disables the system to reboot after a power failure or interrupt occurs. | Power Off Power On Last State |

PC Health Status



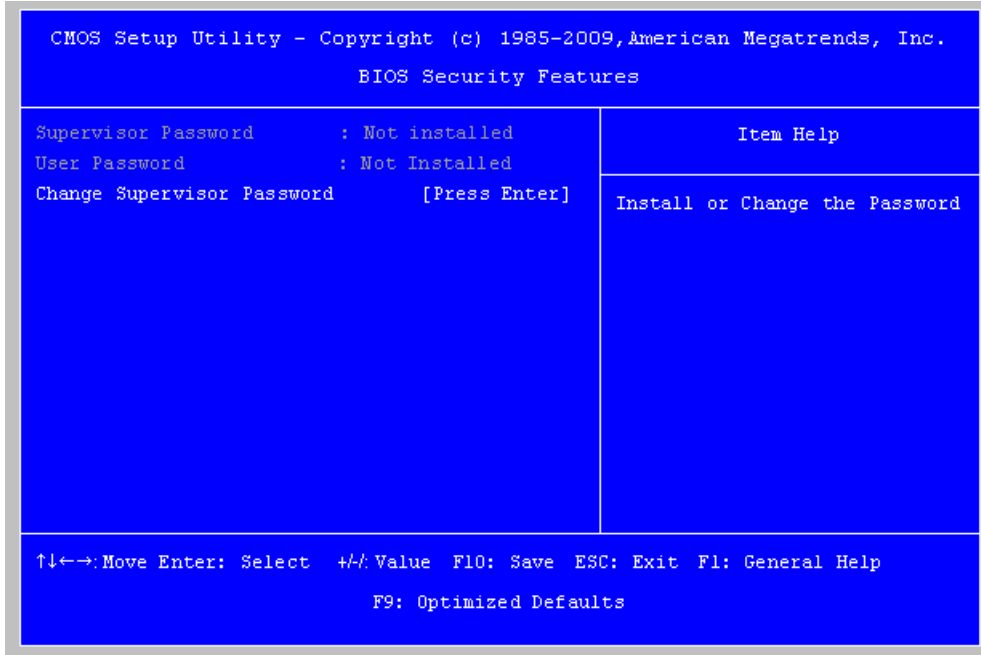
| Parameter | Description | Option |
|--------------------------|--|----------------------------|
| CPU Shutdown Temperature | Enables or disables the system shutdown when the system is over hot. | Enabled Disabled |
| Smart FAN | Enables or disables the smart system fan control function. | Enabled Disabled |

Frequency/Voltage Control



| Parameter | Description | Option |
|-----------------|--|----------------------------|
| Spread Spectrum | Enables or disables the reduction of the mainboard's EMI. Note: Remember to disable the Spread Spectrum feature if you are overclocking. A slight jitter can introduce a temporary boost in clock speed causing the overclocked processor to lock up. | Enabled Disabled |

BIOS Security Features



| Parameter | Description |
|----------------------------|---|
| Supervisor Password | Indicates the status of the supervisor password. |
| User Password | Indicates the status of the user password. |
| Change Supervisor Password | Supervisor password prevents unauthorized access to the BIOS Setup Utility. Press Enter to change the Supervisor password. |

Setting a supervisor password

1. Use the up/down arrow keys to select Change Supervisor Password menu then press **Enter**.
A password box will appear.
2. Type a password then press **Enter**.
The password may consist up to six alphanumeric characters (A-Z, a-z, 0-9)
3. Retype the password to verify the first entry then press **Enter** again.
4. Press **F10**.
5. Select **Yes** to save the new password and close the Setup Utility.

Changing the supervisor password

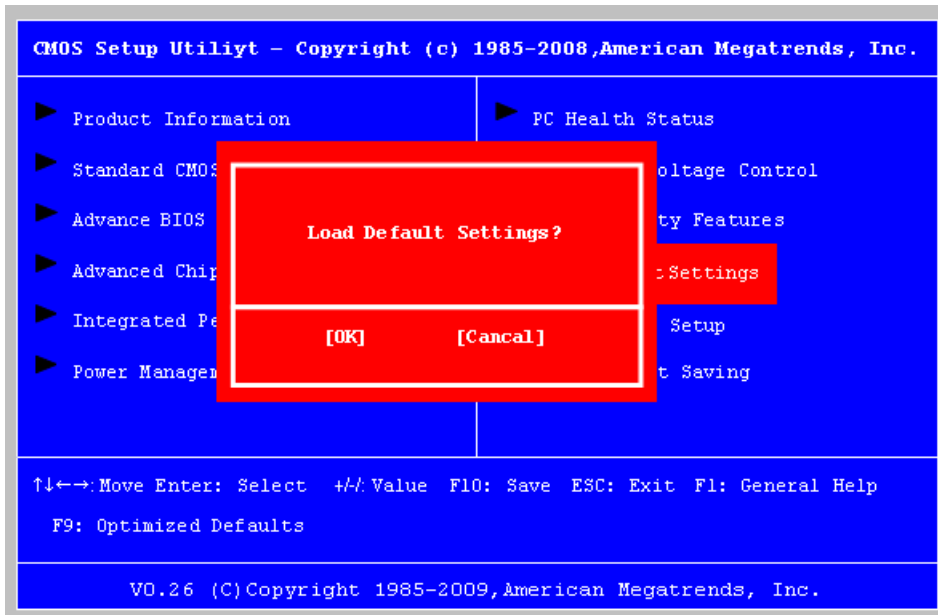
1. Use the up/down arrow keys to select Change Supervisor Password menu then press **Enter**.
2. Type the original password then press **Enter**.
3. Type a new password then press **Enter**.
4. Retype the password to verify the first entry then press **Enter** again.
5. Press **F10**.
6. Select **Yes** to save the new password and close the Setup Utility.

Removing a supervisor password

1. Use the up/down arrow keys to select Change Supervisor Password menu then press **Enter**.
2. Enter the current password then press **Enter**.
3. Press **Enter** twice without entering anything in the password fields.

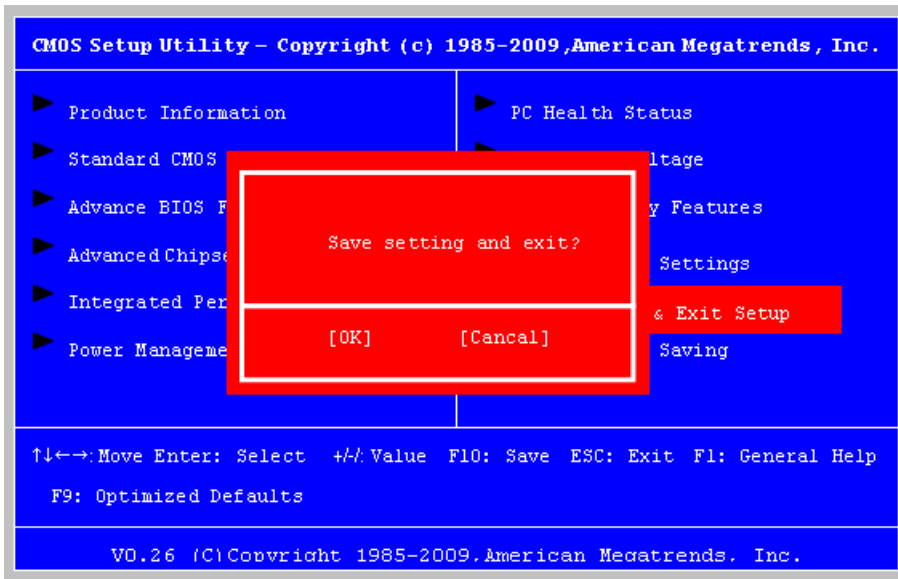
Load Default Settings

The Load Default Settings menu allows you to load the default settings for all BIOS setup parameters. Setup defaults are quite demanding in terms of resources consumption. If you are using low-speed memory chips or other kinds of low-performance components and you choose to load these settings, the system might not function properly.



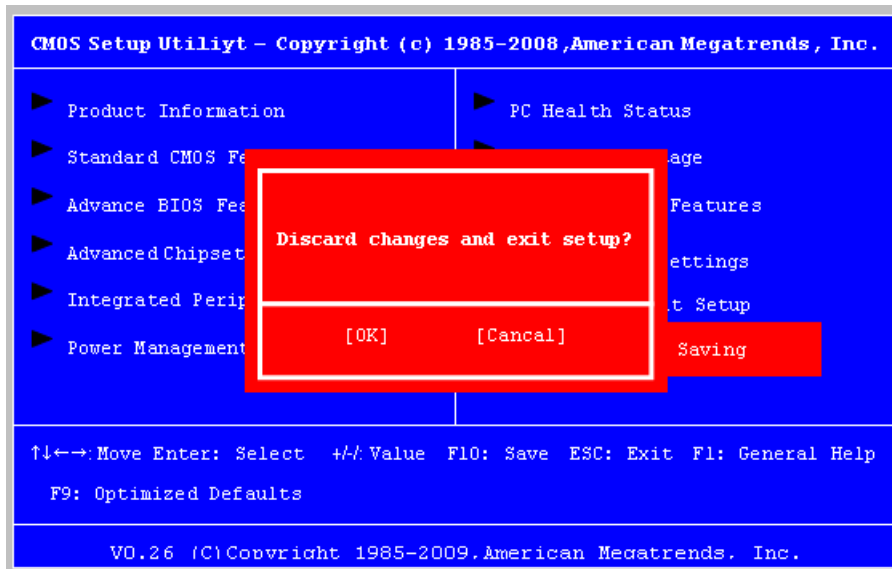
Save & Exit Setup

The Save & Exit Setup menu allows you to save changes made and close the Setup Utility.



Exit Without Saving

The Exit Without Saving menu allows you to discard changes made and close the Setup Utility.



System Disassembly

This chapter contains step-by-step procedures on how to disassemble the desktop computer for maintenance and troubleshooting.

Disassembly Requirements

To disassemble the computer, you need the following tools:

- q Wrist grounding strap and conductive mat for preventing electrostatic discharge
- q Flat-blade screwdriver
- q Philips screwdriver
- q Hex screwdriver
- q Plastic flat-blade screwdriver
- q Plastic tweezers

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

Pre-disassembly Procedure

Before proceeding with the disassembly procedure, perform the steps listed below:

1. Turn off the system and all the peripherals connected to it.
2. Unplug the power cord from the power outlets.
3. Unplug the power cord from the system.
4. Unplug all peripheral cables from the system.
5. Place the system unit on a flat, stable surface.

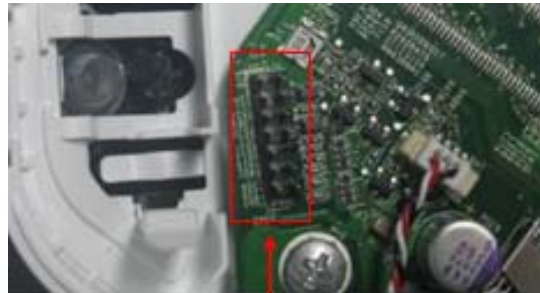
Removing the Side Panel

1. Put the Computer on the worktable lightly.
2. Release side cover with 1 screws then remove side cover.



Removing Front D/B

1. Use hand to loosen both sides the clasp.
2. Lift the D/B away from the main board.



Release 14pin USB connector

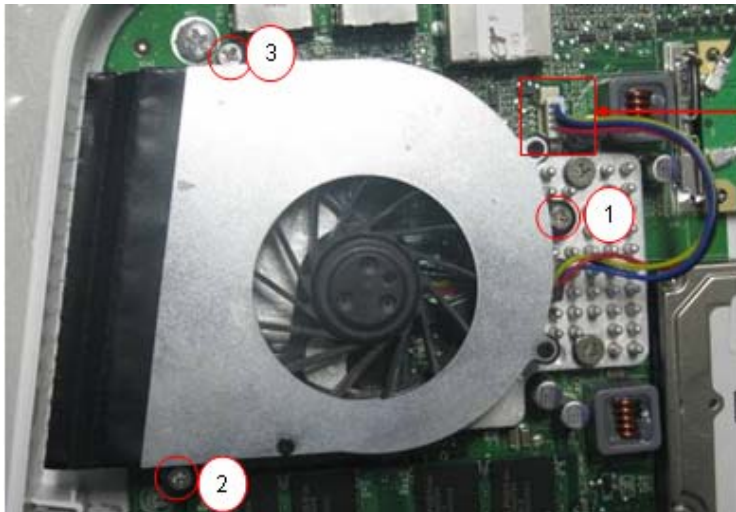


USB daughter board

Removing CPU fan

WARNING: The heat sink becomes very hot when the system is on. NEVER touch the heat sink with any metal or with your hands.

1. Use screwdriver to loosen the three screws and disconnect fan cable.
2. Remove CPU fan from CPU cooler.

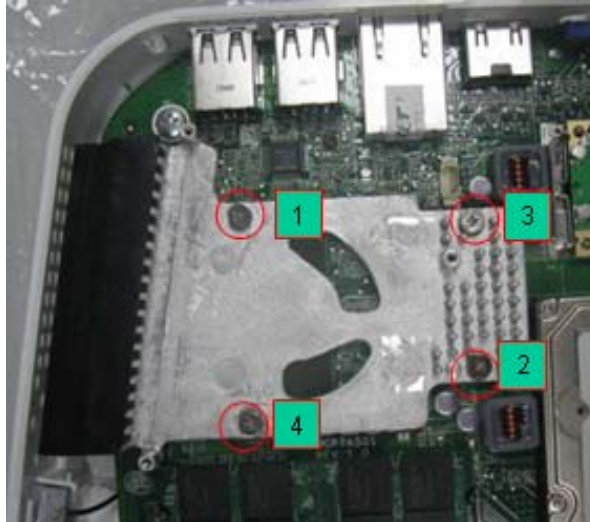


MB" SYS-FAN" connector

Removing CPU Cooler

WARNING: The heat sink becomes very hot when the system is on. NEVER touch the heat sink with any metal or with your hands.

1. Use screwdriver to loosen the four screws. Remove CPU fan from CPU cooler.

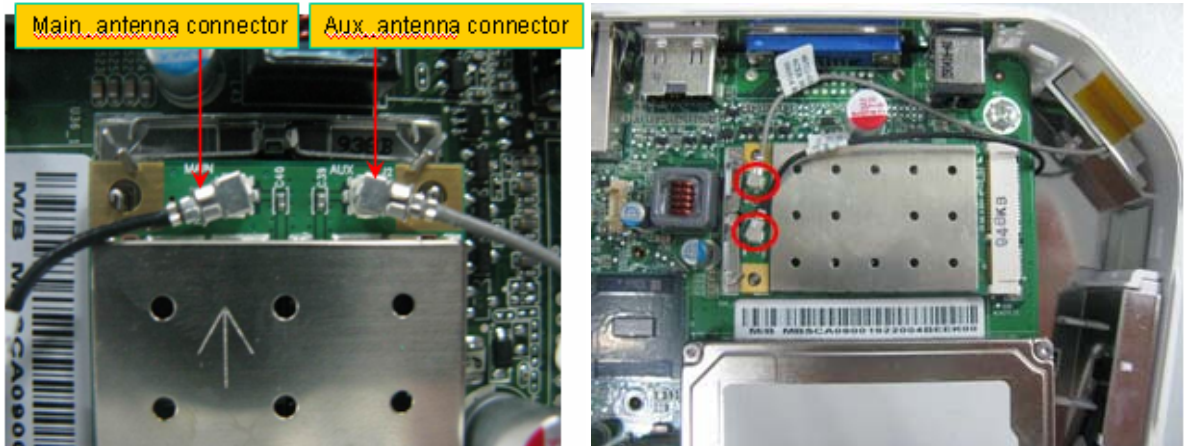


2. Remove CPU cooler.

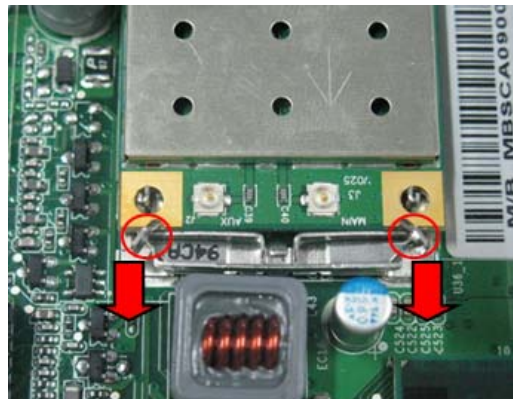


Removing wireless LAN

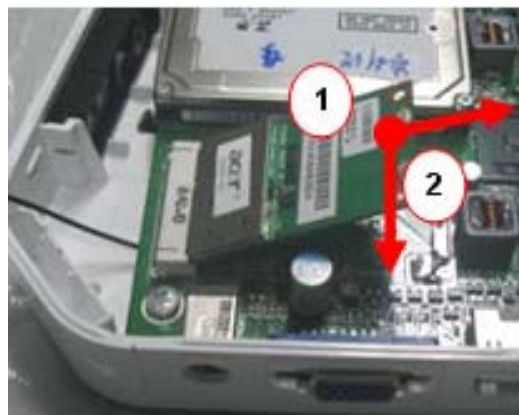
1. Remove wireless LAN antenna cable
 - a. Disconnect aux_ antenna cable (gray) from "AUX" connector of wireless LAN?
 - b. Disconnect main_ antenna cable (black) from "MAIN" connector.



2. Remove wireless LAN.
 - a. Use hand to loosen both sides clip



- b. take off wireless LAN card from M/B MINI-PCIE" connector.



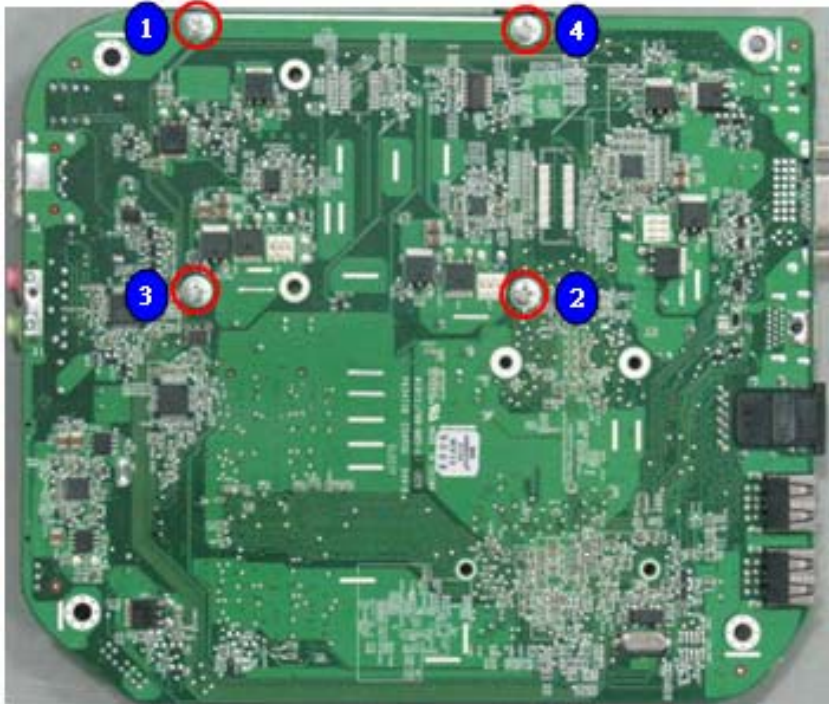
Removing M/B

1. Remove the four screws that secure the main board to the chassis.
2. Lift the board from the chassis.



Removing the Hard Disk Drive

1. Use screwdriver to loosen the four screws.



2. Remove HDD from Main board.



Removing Memory

1. Remove Memory from SODIMM.
2. Remove the second Memory from SODIMM2 (Optional by SKU).



System Troubleshooting

This chapter provides instructions on how to troubleshoot system hardware problems.

Hardware Diagnostic Procedure

Please refer to generic troubleshooting guide for troubleshooting information relating to following topics:

- q Power-On Self-Test (POST)
- q POST Error Messages List
- q Error Symptoms List
- q 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:

- q Microprocessor with built-in numeric co-processor and cache memory subsystem
- q Direct Memory Access (DMA) controller
- q Interrupt system
- q Three programmable timers
- q ROM subsystem
- q RAM subsystem
- q CMOS RAM subsystem and real time clock/calendar with battery backup
- q Onboard parallel interface controller
- q Embedded hard disk interface and one diskette drive interface
- q Keyboard and auxiliary device controllers
- q 1.44M floppy controller
- q I/O ports
 - q One parallel port
 - q One PS/2-compatible mouse port
 - q One PS/2-compatible keyboard port

NOTE: When Post executes a task, it uses a series of preset numbers called check points to belatched atport 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 an 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 |
|------------|--|
| CFh | Test CMOS R/W functionality |
| C0h | Early chipset initialization: -Disable shadow RAM |
| | -Disable L2 cache (socket 7 or below) -Program basic chipset registers |
| C1h | Detect memory |
| | -Auto-detection of DRAM size, type and ECC. |
| | -Auto-detection of L2 cache (socket 7 or below) |
| C3h | Expand compressed BIOS code to DRAM |
| C5h | Call chipset hook to copy BIOS back to E000 & F000 shadow RAM. |
| 01h | Expand the Xgroup codes locating in physical address 1000:0 |
| 02h | Reserved |
| 03h | Initial Superio_Early_Init switch |
| 04h | Reserved |
| 05h | 1. Blank out screen 2. Clear CMOS error flag |
| 06h | Reserved |
| 07h | 1. Clear 8042 interface 2. Initialize 8042 self-test |
| 08h | 1. Test special keyboard controller for Winbond 977 series Super I/O chips. 2. Enable keyboard interface. |
| 09h | Reserved |
| 0Ah | 1. Disable PS/2 mouse interface (optional) 2. Auto detect ports for keyboard & mouse followed by a port & interface swap (optional). 3. Reset keyboard for Winbond 977 series Super I/Q chips. |
| 0Bh | Reserved |
| 0Ch | Reserved |
| 0Dh | Reserved |
| 0Eh | Test F000h segment shadow to see whether it is R/W-able or not. If test fails, keep beeping the speaker. |
| 0Fh | Reserved |
| 10h | Auto detect flash type to load appropriate flash R/W codes into the run time area in F000 for ESCD & DMI support. |
| 11h | Reserved |
| 12h | Use walking 1??s algorithm to check out interface in CMOS circuitry. Also set real-time clock power status, and then check for override. |
| 13h | Reserved |

| Checkpoint | Description |
|------------|---|
| 14h | Program chipset default values into chipset. Chipset default values are MODBINable by OEM customers. |
| 15h | Reserved |
| 16h | Initial Early_Init_Onboard_Generator switch. |
| 17h | Reserved |
| 18h | Detect CPU information including brand, SMI type (Cyrix or Intel) and CPU level (586 or 686) |
| 19h | Reserved |
| 1Ah | Reserved |
| 1Bh | Initial interrupts vector table. If no special specified, all H/W interrupts are directed to SPURIOUS_INT_HDLR & S/W interrupts to PURIOUS_soft_HDLR. |
| 1Ch | Reserved |
| 1Dh | Initial Early_PM_INIT switch. |
| 1Eh | Reserved |
| 1Fh | Load keyboard matrix (notebook platform) |
| 20h | Reserved |
| 21h | HPM initialization (notebook platform) |
| 22h | Reserved |
| 3Ch | Test 8254. |
| 3Dh | Reserved |
| 3Eh | Test 8259 interrupt mask bits for channel 1 |
| 3Fh | Reserved |
| 40h | Test 8259 interrupt mask bits for channel 2 |
| 41h | Reserved |
| 42h | Reserved |
| 43h | Test 8259 functionality |
| 44h | Reserved |
| 45h | Reserved |
| 46h | Reserved |
| 47h | Initialize EISA slot |
| 48h | Reserved |
| 49h | 1. Calculate total memory by testing the last double word of each 64K. 2. Program writes allocation for AMD K5 CPU. |
| 4Ah | Reserved |
| 4Bh | Reserved |

| Checkpoint | Description |
|------------|---|
| 4Ch | Reserved |
| 4Dh | Reserved |
| 4Eh | <ol style="list-style-type: none"> 1. Program MTRR of M1 CPU. 2. Initialize L2 cache for P6 class CPU & program CPU with proper cacheable range. 3. Initialize the APIC for P6 class CPU. 4. On MP platform, adjust the cacheable range to smaller one in case the cacheable ranges between each CPU are not identical. |
| 4Fh | Reserved |
| 50h | Initialize USB |
| 51h | Reserved |
| 52h | Test all memory (clear all extended memory to 0) |
| 53h | Reserved |
| 54h | Reserved |
| 55h | Display number of processors (multi-processor platform) |
| 56h | Reserved |
| 57h | <ol style="list-style-type: none"> 1. Display PnP logo 2. Early ISA PnP initialization -Assign CSN to every ISA PnP device. |
| 58h | Reserved |
| 59h | Initialize the combined Trend Anti-Virus code. |
| 5Ah | Reserved |
| 5Bh | (Optional Feature) Show message for entering AWDFLASH.EXE from FDD (optional) |
| 5Ch | Reserved |
| 5Dh | <ol style="list-style-type: none"> 1. Initialize Init_Onboard_Super_IO switch. 2. Initialize Init_Onboard_AUDIO switch. |
| 5Eh | Reserved |
| 5Fh | Reserved |
| 60h | Okay to enter Setup utility; i.e. not until this POST stage can users enter the CMOS setup utility. |
| 61h | Reserved |
| 62h | Reserved |
| 63h | Reserved |
| 64h | Reserved |
| 65h | Initialize PS/2 Mouse |
| 66h | Reserved |
| 67h | Prepare memory size information for function call: INT 15h ax=E820h |
| 68h | Reserved |

| Checkpoint | Description |
|------------|--|
| 69h | Turn on L2 cache |
| 6Ah | Reserved |
| 6Bh | Program chipset registers according to items described in Setup& Auto configuration table. |
| 6Ch | Reserved |
| 6Dh | 1. Assign resources to all ISA PnP devices. 2. Auto assign ports to onboard COM ports if the corresponding item in Setup is set to "AUTO" |
| 6Eh | Reserved |
| 6Fh | 1. Initialize floppy controller 2. Set up floppy related fields in 40: hardware. |
| 70h | Reserved |
| 71h | Reserved |
| 72h | Reserved |
| 73h | (Optional Feature) Enter AWDFLASH.EXE if: -AWDFLASH is found in floppy drive -ALT+F2 is pressed |
| 74h | Reserved |
| 75h | Detect & install all IDE devices: HDD, LS120, ZIP,CDROM.... |
| 76h | Reserved |
| 77h | Detect serial ports & parallel ports |
| 78h | Reserved |
| 79h | Reserved |
| 7Ah | Detect & install co-processor |
| 7Bh | Reserved |
| 7Ch | Reserved |
| 7Dh | Reserved |
| 7Eh | Reserved |
| 7Fh | 1. Switch back to text mode if full screen logo is supported. -If errors occur, report errors & wait for keys -If no errors occur or F1 key is pressed to continue: Clear EPA or customization logo. |
| 80h | Reserved |
| 81h | Reserved |
| 82h | 1. Call chipset power management hook. 2. Recover the text fond used by EPA logo (not for full screen logo) 3. If password is set, ask for password. |
| 83h | Save all data in stack back to CMOS. |
| 84h | Initialize ISA PnP boot devices. |

| Checkpoint | Description |
|------------|---|
| 85h | <ol style="list-style-type: none"> 1. USB final Initialization 2. NET PC: Build SYSID structure 3. Switch screen back to text mode. 4. Set up ACPI table at top of memory. 5. Invoke ISA adapter ROMs. 6. Assign IRQs to PCI devices 7. Initialize APM 8. Clear noise of IRQs |
| 86h | Reserved |
| 87h | Reserved |
| 88h | Reserved |
| 89h | Reserved |
| 90h | Reserved |
| 91h | Reserved |
| 92h | Reserved |
| 93h | Read HDD boot sector information for Trend Anti-Virus code |
| 94h | <ol style="list-style-type: none"> 1. Enable L2 cache 2. Program boot up speed 3. Chipset final initialization 4. Power management final initialization 5. Clear screen & display summary table 6. Program K6 write allocation 7 Program P6 class write combining. |
| 95h | <ol style="list-style-type: none"> 1. Program daylight saving 2. Update keyboard LED & typematic rate |
| 96h | <ol style="list-style-type: none"> 1. Build MP table 2. Build & update ESCD 3. Set CMOS century to 20h or 19h 4. Load CMOS time into DOS timer tick 5. Build MSIRQ routing table |
| FFh | Boot attempt (INT 19h) |

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"

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. |
| Floppy disk(s) fail | Cannot find or initialize the floppy drive controller or the drive. Make sure the controller is installed correctly, if no floppy drives are installed, be sure the Diskette Drive selection in Setup is set to NONE or AUTO. |
| HARD DISK initializing - Please wait a moment | 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. |

| BIOS Messages | Action/FRU |
|---|---|
| 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. |
| 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 |
|--|---|
| Processor / Processor Fan | |
| <p>NOTE: 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.</p> | |
| Processor fan does not run but power supply fan runs. | <ol style="list-style-type: none"> 1. Ensure the system is not in power saving mode. See "Power Management" in chapter 2. 2. With the system power on, measure the voltage of processor fan connector. Its reading should be +12Vdc. If the reading shows normal, but the fan still does not work, then replace a good fan. 3. Main board. |
| Processor test failed. | <ol style="list-style-type: none"> 1. Processor. 2. Main board. |
| Main board and Memory | |
| <p>NOTE: Ensure the memory modules are installed properly and the contact leads are clean before diagnosing any system problems.</p> | |
| Memory test failed. | <ol style="list-style-type: none"> 1. See "Memory" 2. Main board |
| Incorrect memory size shown or repeated during POST. | <ol style="list-style-type: none"> 1. Insert the memory modules in the DIMM sockets properly, then reboot the system. 2. Memory module. 3. Main board. |
| System works but fails to enter power saving mode when the Power Management Mode is set to Enabled. | <ol style="list-style-type: none"> 1. Enter BIOS Setup and load default settings. In Windows Systems, check settings in Power Management Property of Control Panel. 2. Reload software from Recovery CD. |
| Blinking cursor only; system does not work. | <ol style="list-style-type: none"> 1. Diskette/IDE drive connection/cables 2. Diskette/IDE disk drives 3. See "Undetermined Problems". 4. Main board |
| Diskette Drive | |
| <p>NOTE: Ensure the diskette drive is auto-setting in BIOS Setup and its read/write head is clean before diagnosing any diskette 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.)</p> | |
| Media and drive are mismatched. | <ol style="list-style-type: none"> 1. Ensure the diskette drive is configured correctly in the Disk Drives of BIOS Setup. 2. Ensure the diskette drive is correctly formatted. 3. Diskette drive connection/cable 4. Diskette drive 5. Main board |

| Error Symptom | Action/FRU |
|---|---|
| Diskette drive does not work. | <ol style="list-style-type: none"> 1.Ensure the diskette drive is not set to None in the Disk Drives of BIOS Setup. 2.Diskette drive power 3.Diskette drive connection/cable 4.Diskette drive 5.Main board |
| Diskette drive read/write error. | <ol style="list-style-type: none"> 1.Diskette. 2.Diskette drive cable. 3.Diskette drive. 4.Main board |
| Diskette drive LED comes on for more than 2 minutes when reading data. | <ol style="list-style-type: none"> 1.Diskette 2.Diskette drive connection/cable 3.Diskette drive 4.Main board |
| Diskette drive LED fails to light, and the drive is unable to access for more than 2 minutes. | <ol style="list-style-type: none"> 1.Diskette 2.Diskette drive power 3.Diskette drive connection/cable 4.Diskette drive 5.Main board |
| Diskette drive test failed. | <ol style="list-style-type: none"> 1.Diskette 2.Diskette drive 3.Diskette drive cable 4.Main board |
| Hard Disk Drive | |
| <p>NOTE: 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.)</p> | |
| Hard disk drive test failed. | <ol style="list-style-type: none"> 1.Enter BIOS Setup and Load default settings. 2.Hard disk drive cable. 3.Hard disk drive. 4. Main board. |
| Hard disk drive cannot format completely. | <ol style="list-style-type: none"> 1.Enter BIOS Setup and Load default settings. 2.Hard disk drive cable. 3.Hard disk drive. 4.Main board |
| Hard disk drive has write error. | <ol style="list-style-type: none"> 1.Enter BIOS Setup and Load default settings. 2.Hard disk drive. |
| Hard disk drive LED fails to light, but system operates normally. | <ol style="list-style-type: none"> 1.With the system power on, measure the voltage of hard disk LED connector. 2.Hard drive LED cable. |
| CD/DVD-ROM Drive | |
| <p>NOTE: 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.</p> | |

| Error Symptom | Action/FRU |
|---|---|
| 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. |
| Real-time clock | |
| 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. |
| Audio | |
| Audio software program invokes but no sound comes from speakers. | 1.Speaker power/connection/cable. |
| Modem | |
| 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 |
| Video and Monitor | |

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

| Error Symptom | Action/FRU |
|---|---|
| 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"> 1. Load default settings. 2. Reload software from Recovery CD. |
| No system power, or power supply fan is not running. | <ol style="list-style-type: none"> 1. Power Supply 2. Main board |
| Other Problems | |
| Any other problems. | 1. Undetermined Problems |

Undetermined Problems

If an error message is present, go to "POST Error Messages List" on page 85. If you did not receive any messages, if the symptom is listed in "or "Error Symptoms List" on page 87. If you still cannot solve the problem, continue with this check:

1. Check the power supply voltage. If the voltage 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
 - q External devices
 - q Any adapter card (modem card, LAN card or video card, if installed)
 - q CD/DVD-ROM drive
 - q Diskette drive
 - q Hard disk drive
 - q DIMM
 - q Processor
 - q 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

Jumper Setting

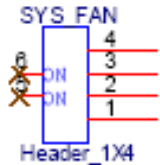

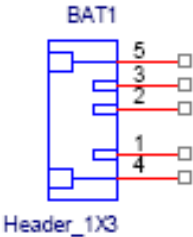
The section explains how to set jumper for correct configuration of the mainboard.

Setting Jumper

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.

System Board Jumper Setting

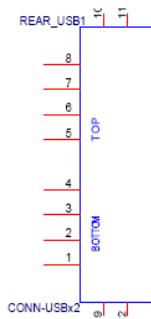
1. System Board Jumper Setting

| Jumper/Header Name | Function | Definition |
|--|-------------------|--|
| SYS_FAN (4 PIN)  | SYSTEM FAN HEADER | 1: GND 2: +5V 3: SENSE 4: PWM CONTROL |
| CLR_CMOS  | CLEAR CMOS HEADER | 1-2: CLEAR CMOS 2-3: NORMAL (Default) |
| BAT1(3 PIN)  | BATTERY HEADER | 1: Battery power output 2: RTC_SENSE# 3-5: GND |

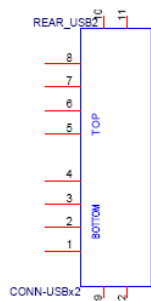
| Jumper/Header Name | Function | Definition |
|--------------------|--------------------|-------------------|
| <p>FP1</p> | Front panel header | 1: GND |
| | | 2: F_USB PWR |
| | | 3: USB_P5+ |
| | | 4: USB_P5- |
| | | 5: GND |
| | | 6: F_USB PWR* |
| | | 7: USB_P4+ |
| | | 8: USB_P4- |
| | | 9: FP_9(PU 5V_S0) |
| | | 10: KEY |
| | | 11: PWRBTNJ |
| | | 12: LEDP |
| | | 13: GND |
| | | 14: PMSLED |

2. USB CONNECTORS (Stacked)(Black)

a. REAR_USB1, REAR_USB2

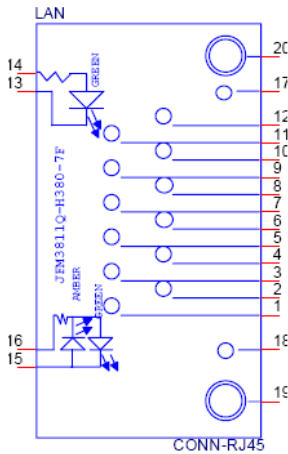


| Pin | Signal Name |
|----------------|--------------|
| 1,5 | USB_REAR_PWR |
| 2 | USB_0_FBJ |
| 3 | USB_0_FB |
| 6 | USB_2_FBJ |
| 7 | USB_2_FB |
| 4,8,9,10,11,12 | GND |



| Pin | Signal Name |
|----------------|--------------|
| 1,5 | USB_REAR_PWR |
| 2 | USB_1_FBJ |
| 3 | USB_1_FB |
| 6 | USB_3_FBJ |
| 7 | USB_3_FB |
| 4,8,9,10,11,12 | GND |

b. LAN1



| Pin | Signal Name |
|----------|----------------|
| 3,6,9,12 | PHY_VDD33 |
| 17,18 | GND |
| 1 | MDI0+ |
| 2 | MDI0- |
| 4 | MDI1+ |
| 5 | MDI1- |
| 7 | MDI2+ |
| 8 | MDI2- |
| 10 | MDI3+ |
| 11 | MDI3- |
| 19,20 | IO_GND |
| 14 | LAN_LINK_LED+ |
| 13 | LAN_LINK_LED- |
| 15 | LINK_1000_LEDJ |
| 16 | LINK_100_LEDJ |

NOTE: Pins 1-12 for RJ-45 LAN Jack pin definition, 13-16 for LAN LED definition

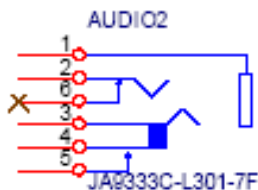
3. Audio Back Panel Connectors (Vertical)

a. AUDIO1 (MIC IN /Pink in Color)



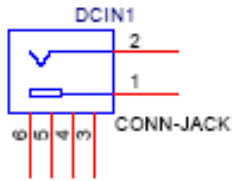
| Pin | Signal Name |
|-----|-----------------|
| 1 | GND |
| 2 | MIC1_L2 |
| 3 | MIC1_R5 |
| 4 | MIC1-JD |
| 5 | FRONT-IO-SENSE1 |
| 6 | NC |

b. AUDIO2 (LINE OUT /Lime in Color)



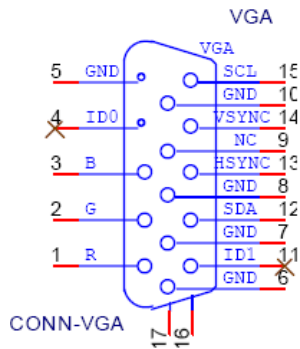
| Pin | Signal Name |
|-----|-----------------|
| 1 | GND |
| 2 | LINE_OUT_L2 |
| 3 | LINE_OUT_R5 |
| 4 | FRONT-JD |
| 5 | FRONT-IO-SENSE2 |
| 6 | NC |

c. DCIN



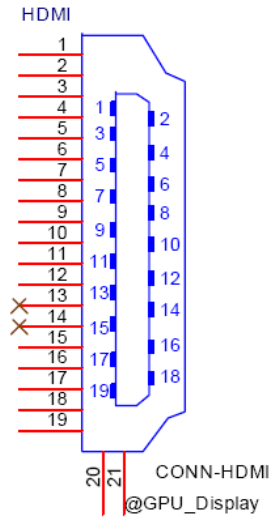
| Pin | Signal Name |
|-----|-------------|
| 1 | DCIN |
| 2 | GND |
| 3 | GND |
| 4 | GND |
| 5 | GND |
| 6 | GND |

d. VGA(D-SUB)



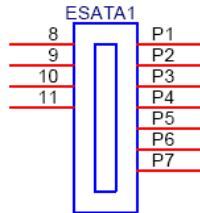
| Pin | Signal Name |
|-----|-------------|
| 1 | DACR |
| 2 | DACG |
| 3 | DACB |
| 4 | NC |
| 5 | GND |
| 6 | GND |
| 7 | GND |
| 8 | GND |
| 9 | VGA_POWER |
| 10 | GND |
| 11 | NC |
| 12 | SPD2_VGA |
| 13 | HSYNC_C |
| 14 | VSYNC_C |
| 15 | SPCLK2_VGA |
| 16 | GND |
| 17 | GND |

e. HDMI



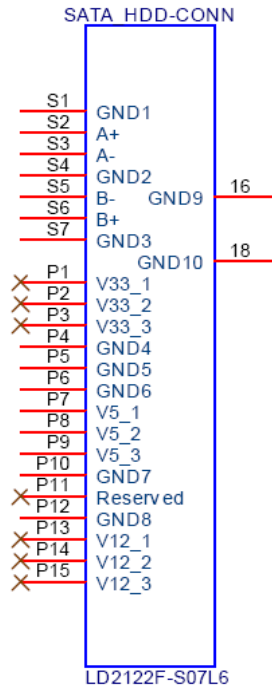
| Pin | Signal Name |
|-----|-------------|
| 1 | TX2+ |
| 2 | GND |
| 3 | TX2- |
| 4 | TX1+ |
| 5 | GND |
| 6 | TX1- |
| 7 | TX0+ |
| 8 | GND |
| 9 | TX0- |
| 10 | TXC+ |
| 11 | GND |
| 12 | TXC- |
| 13 | NC |
| 14 | NC |
| 15 | SPCLK2_5V |
| 16 | SPDAT2_5V |
| 17 | GND |
| 18 | 5V_HDMI |
| 19 | DVI2_HPD |
| 20 | GND |
| 21 | GND |

f. eSATA CONN



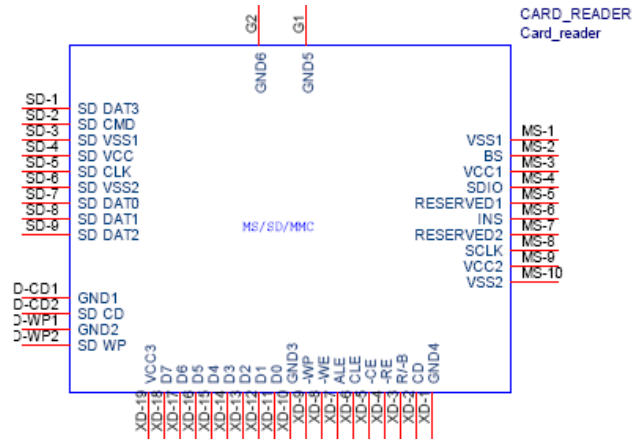
| Pin | Signal Name |
|-----|----------------|
| P1 | GND |
| P2 | SATA_A0_TX_P_C |
| P3 | SATA_A0_TX_N_C |
| P4 | GND |
| P5 | SATA_A0_RX_N_C |
| P6 | SATA_A0_RX_P_C |
| P7 | GND |
| 8 | GND |
| 9 | GND |
| 10 | GND |
| 11 | GND |

g. SATA CONN



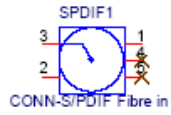
| Pin | Signal Name |
|-----|-------------|
| S1 | GND |
| S2 | STXP_0 |
| S3 | STXN_0 |
| S4 | GND |
| S5 | SRXN_0 |
| S6 | SRXP_0 |
| S7 | GND |
| P1 | NC |
| P2 | NC |
| P3 | NC |
| P4 | GND |
| P5 | GND |
| P6 | GND |
| P7 | 5V_S0 |
| P8 | 5V_S0 |
| P9 | 5V_S0 |
| P10 | GND |
| P11 | NC |
| P12 | GND |
| P13 | NC |
| P14 | NC |
| P15 | NC |

h. Card reader



| Pin | Signal Name | Pin | Signal Name |
|--------|-------------|-------|-------------|
| SD-1 | SD_DAT3 | MS-10 | GND |
| SD-2 | SD_CMD | G1 | GND |
| SD-3 | GND | G2 | GND |
| SD-4 | CARD_3V3 | XD-1 | GND |
| SD-5 | SD_CLK | XD-2 | XD_CD# |
| SD-6 | GND | XD-3 | XD_RDY |
| SD-7 | MS_SD_DAT0 | XD-4 | XD_RE# |
| SD-8 | SD_DAT1 | XD-5 | XD_CE# |
| SD-9 | SD_DAT2 | XD-6 | XD_CLE |
| SD-CD1 | GND | XD-7 | XD_ALE |
| SD-CD2 | SD_CD# | XD-8 | XD_WE# |
| SD-WP1 | GND | XD-9 | XD_WP# |
| SD-WP2 | SD_WP | XD-10 | GND |
| MS-1 | GND | XD-11 | XD_D0 |
| MS-2 | MS_BS | XD-12 | XD_D1 |
| MS-3 | MS_D1 | XD-13 | XD_D2 |
| MS-4 | MS_SD_DAT0 | XD-14 | XD_D3 |
| MS-5 | MS_D2 | XD-15 | XD_D4 |
| MS-6 | MS_INS# | XD-16 | XD_D5 |
| MS-7 | MS_D3 | XD-17 | XD_D6 |
| MS-8 | CR_CLK | XD-18 | XD_D7 |
| MS-9 | CARD_3V3 | XD-19 | CARD_3V3 |

i. Spdif



| Pin | Signal Name |
|-----|-------------|
| P1 | GND |
| P2 | 5V_SYS |
| P3 | SPDIF_OUT |
| P4 | NC |
| P5 | NC |

FRU (Field Replaceable Unit) List

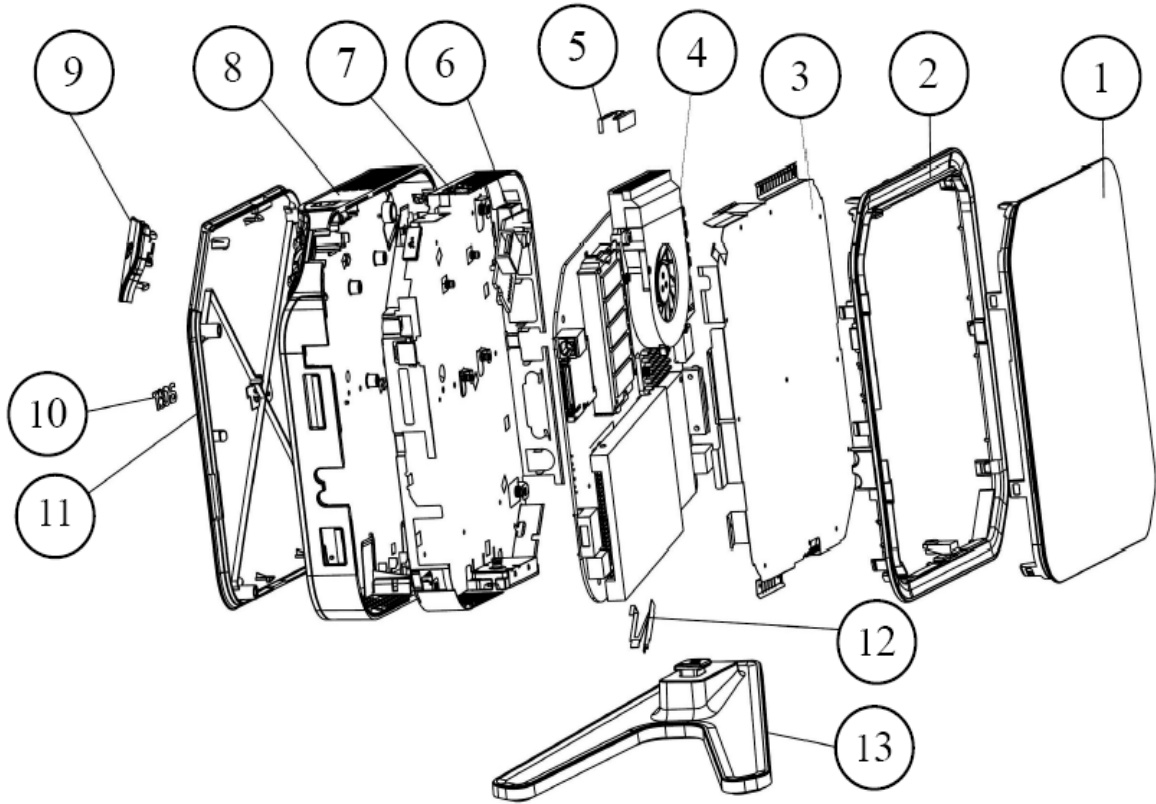
This chapter offers the FRU (Field Replaceable Unit) list in global configuration of the Aspire R3610 desktop computer. Refer to this chapter whenever ordering the parts to repair or for RMA (Return Merchandise Authorization).

NOTES:

- q When ordering FRU parts, check the most up-to-date information available on your regional web or channel. For whatever reasons a part number is changed, it will NOT be noted on the printed Service Guide. For Acer authorized service providers, your Acer office may have a different part number code from those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts for service.
- q To scrap or to return the defective parts, follow the local government ordinance or regulations on how to dispose it properly, or follow the rules set by your regional Acer office on how to return it.
- q This document will be updated as more information about the FRU list becomes available.




Aspire R3610 Exploded Diagram





NOTE: This section will be updated when more information becomes available.





| NO | PART NO | QTY | NO | PART NO | QTY |
|----|-------------------|-----|----|--------------|-----|
| 1 | Bot-cover | 1 | 8 | 01-Main-base | 1 |
| 2 | Cover-pannel | 1 | 9 | POWER-BUTTON | 1 |
| 3 | SHEETMETAL-TOP | 1 | 10 | 2009_Acer | 1 |
| 4 | ACER-1L-MB-LOYOUT | 1 | 11 | Top-Cover | 1 |
| 5 | ANTENNA_P_7 | 1 | 12 | ANTENNA_B_8 | 1 |
| 6 | 1L-Power-Switch | 1 | 13 | V-STAND | 1 |
| 7 | SHEETMETAL-BOT | 1 | | | |

Aspire R3610 FRU List

| Category | Description | Part Number |
|---|---|--------------|
| MB | | |
|  | Mainboard R3610 nVidia Proprietary LF MCP7A-ION,W/ eSATA, W/ HDMI,S/PDIF ,Atom330 | MB.SCX09.001 |
| Cooler | | |
|  | w/i 7012 blower (for Atom 230) | HI.10800.038 |
| | Hornet a/p/g N330 FXN PKP710G w/i sunon fan | HI.10800.043 |
| Memory | | |
|  | so-DIMM GU331G0ALEPR612C6CE/DDRII800/1GB | KN.1GB0H.010 |
| | Memory NANYA SO-DIMM DDRII 800 1GB NT1GT64UH8D0FN-AD LF 64*16 0.07um | KN.1GB03.025 |
| | GU332G0ALEPR8H2C6CE/DDRII800/2GB | KN.2GB0H.003 |
| | Memory NANYA SO-DIMM DDRII 800 2GB NT2GT64U8HD0BN-AD LF 128*8 0.07um | KN.2GB03.010 |
| | Memory SAMSUNG SO-DIMM DDRII 800 1GB M470T2864EH3-CF7 LF 64*16 0.055um | KN.1GB0B.033 |
| | Memory UNIFOSA SO-DIMM DDRII 800 1GB GU331G0ALEPR612C6F1 LF 128*8 0.065um | KN.1GB0H.014 |
| | Memory SAMSUNG SO-DIMM DDRII 800 2GB M470T5663EH3-CF7 LF 128*8 0.055um | KN.2GB0B.018 |
| | Memory UNIFOSA SO-DIMM DDRII 800 2GB GU332G0ALEPR8H2C6F1 LF 128*8 0.065um | KN.2GB0H.008 |
| HDD (SATA) | | |

| Category | Description | Part Number |
|---|--|--------------|
|  | HGST 2.5" 5400rpm 160GB HTS543216L9A300 Falcon-B SATA LF F/W:C40C | KH.16007.019 |
| | SEAGATE 2.5" 5400rpm 160GB ST9160310AS Crockett SATA LF F/W:0303 | KH.16001.034 |
| | WD 2.5" 5400rpm 160GB WD1600BEVT-22ZCTO ML160 SATA LF F/W:11.01A11 | KH.16008.022 |
| | HDD HGST 2.5" 5400rpm 250GB HTS545025B9A300 Panther B SATA LF F/W:C60F | KH.25007.015 |
| | HDD SEAGATE 2.5" 5400rpm 250GB ST9250315AS Wyatt SATA LF F/W:0001SDM1 | KH.25001.016 |
| | HDD WD 2.5" 5400rpm 250GB WD2500BEVT-22ZCT0 ML160 SATA LF F/W:11.01A11 | KH.25008.021 |
| | HDD WD 2.5" 5400rpm 320GB WD3200BEVT-22ZCT0 ML160 SATA LF F/W:11.01A11 | KH.32008.013 |
| | HDD HGST 2.5" 5400rpm 320GB HTS545032B9A300 Panther B SATA LF F/W:C60F | KH.32007.007 |
| | HDD WD 2.5" 5400rpm 500GB WD5000BEVT-22ZAT0 ML250 SATA LF F/W:01.01A01 | KH.50008.013 |
| | HDD HGST 2.5" 5400rpm 500GB HTS545050B9A300 Panther B SATA LF F/W:C60F | KH.50007.009 |
| Modem | | |
|  | VD56UL, Modem USB dongle 56K modem | FX.10100.001 |
| Wireless | | |
|  | Foxconn 802.11 b/g/n WLAN mini-card Atheros XB91 (mini-card), 1Tx2R | NI.10200.012 |
| | Foxconn T60H976.11 Atheros XB63 WLAN Foxconn T60H976.11 Atheros XB63 WLAN Atheros PCI-Express WLAN 8 | NI.10200.026 |
| Adapter | | |
|  | 65W | AP.06501.026 |
| | 65W (level 5) - HP-A0652R3B 2LF | AP.0650A.014 |
| RF Mouse | | |

| Category | Description | Part Number |
|---|---|--------------|
|  | Chicony Mouse RF2.4 MGR0919 with Receiver | MS.11200.052 |
| USB Optical Mouse | | |
|  | mouse USB M-U0005 | MS.11200.047 |
| Speaker | | |
|  | Neosonica mini speaker USB White | SP.10600.028 |
| webcam | | |
|  | webcam+stand | PC.13400.035 |
| air mouse + controller(game pad) | | |
|  | Cywee 3D stick mouse Mouse Z | MS.11200.053 |
| Mounting | | |
|  | 1L Hornet Mounting kit for a/p/g | PC.13400.041 |
| Remote controller | | |
|  | EMEA Vista RC | RT.11300.009 |
| | EMEA Vista MCE | RT.11300.005 |
| | US Vista MCE | RT.11300.006 |
| | TC Vista MCE | RT.11300.007 |
| | SC Vista MCE | RT.11300.008 |
| receiver | | |

| Category | Description | Part Number |
|---|---|--------------|
|  | Receiver w/o IR Blaster | RV.11000.007 |
| | Receiver w/ IR Blaster | RV.11000.014 |
| USB Keyboard | | |
|  | Keyboard CHICONY KU-0906 USB 104KS White US | KB.USB03.154 |
| | Keyboard CHICONY KU-0906 USB 104KS White Traditional Chinese | KB.USB03.155 |
| | Keyboard CHICONY KU-0906 USB 104KS White Simplified Chinese | KB.USB03.156 |
| | Keyboard CHICONY KU-0906 USB 104KS White US International | KB.USB03.157 |
| | Keyboard CHICONY KU-0906 USB 104KS White Arabic/English | KB.USB03.158 |
| | Keyboard CHICONY KU-0906 USB 104KS White Thailand | KB.USB03.159 |
| | Keyboard CHICONY KU-0906 USB 105KS White Spanish | KB.USB03.160 |
| | Keyboard CHICONY KU-0906 USB 105KS White Portuguese | KB.USB03.161 |
| | Keyboard CHICONY KU-0906 USB 105KS White Canadian French | KB.USB03.162 |
| | Keyboard CHICONY KU-0906 USB 105KS White Brazilian Portuguese | KB.USB03.163 |
| | Keyboard CHICONY KU-0906 USB 109KS White Japanese | KB.USB03.164 |
| | Keyboard CHICONY KU-0906 USB 105KS White German | KB.USB03.165 |
| | Keyboard CHICONY KU-0906 USB 105KS White Italian | KB.USB03.166 |
| | Keyboard CHICONY KU-0906 USB 105KS White French | KB.USB03.167 |
| | Keyboard CHICONY KU-0906 USB 105KS White Swedish | KB.USB03.168 |
| | Keyboard CHICONY KU-0906 USB 105KS White UK | KB.USB03.169 |

| Category | Description | Part Number |
|----------|--|--------------|
| | Keyboard CHICONY KU-0906 USB 105KS White Dutch | KB.USB03.170 |
| | Keyboard CHICONY KU-0906 USB 105KS White Swiss/G | KB.USB03.171 |
| | Keyboard CHICONY KU-0906 USB 105KS White Belgium | KB.USB03.172 |
| | Keyboard CHICONY KU-0906 USB 105KS White Icelandic | KB.USB03.173 |
| | Keyboard CHICONY KU-0906 USB 105KS White Norwegian | KB.USB03.174 |
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| | Keyboard CHICONY KU-0906 USB 105KS White Slovenian | KB.USB03.177 |
| | Keyboard CHICONY KU-0906 USB 105KS White Slovak | KB.USB03.178 |
| | Keyboard CHICONY KU-0906 USB 104KS White Russian | KB.USB03.179 |
| | Keyboard CHICONY KU-0906 USB 105KS White Hungarian | KB.USB03.180 |
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| | Keyboard CHICONY KU-0906 USB 105KS White Turkish-Q | KB.USB03.187 |
| | Keyboard CHICONY KU-0906 USB 105KS White Arabic/French | KB.USB03.188 |
| | Keyboard CHICONY KU-0906 USB 104KS White Kazakh | KB.USB03.189 |
| | Keyboard CHICONY KU-0906 USB 104KS White Turkmen | KB.USB03.190 |

| Category | Description | Part Number |
|---|---|--------------|
| | Keyboard CHICONY KU-0906 USB 105KS White Nordic | KB.USB03.191 |
| Wireless KB | | |
|  | Keyboard CHICONY KG-0917 RF2.4 104KS White US | KB.RF403.097 |
| | Keyboard CHICONY KG-0917 RF2.4 104KS White Traditional Chinese | KB.RF403.098 |
| | Keyboard CHICONY KG-0917 RF2.4 104KS White Simplified Chinese | KB.RF403.099 |
| | Keyboard CHICONY KG-0917 RF2.4 104KS White US International | KB.RF403.100 |
| | Keyboard CHICONY KG-0917 RF2.4 104KS White Arabic/English | KB.RF403.101 |
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| | Keyboard CHICONY KG-0917 RF2.4 105KS White Spanish | KB.RF403.103 |
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| | Keyboard CHICONY KG-0917 RF2.4 105KS White Canadian French | KB.RF403.105 |
| | Keyboard CHICONY KG-0917 RF2.4 107KS White Brazilian Portuguese | KB.RF403.106 |
| | Keyboard CHICONY KG-0917 RF2.4 109KS White Japanese | KB.RF403.107 |
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| | Keyboard CHICONY KG-0917 RF2.4 105KS White French | KB.RF403.110 |
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| Category | Description | Part Number |
|----------|---|--------------|
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| | Keyboard CHICONY KG-0917 RF2.4 104KS White Greek | KB.RF403.124 |
| | Keyboard CHICONY KG-0917 RF2.4 105KS White Danish | KB.RF403.125 |
| | Keyboard CHICONY KG-0917 RF2.4 104KS White Czech | KB.RF403.126 |
| | Keyboard CHICONY KG-0917 RF2.4 105KS White Romanian | KB.RF403.127 |
| | Keyboard CHICONY KG-0917 RF2.4 105KS White Turkish | KB.RF403.128 |
| | Keyboard CHICONY KG-0917 RF2.4 105KS White Spanish Latin | KB.RF403.129 |
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| | Keyboard CHICONY KG-0917 RF2.4 105KS White Arabic/French | KB.RF403.131 |
| | Keyboard CHICONY KG-0917 RF2.4 104KS White Kazakh | KB.RF403.132 |
| | Keyboard CHICONY KG-0917 RF2.4 104KS White Turkmen | KB.RF403.133 |
| | Keyboard CHICONY KG-0917 RF2.4 105KS White Nordic | KB.RF403.134 |

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