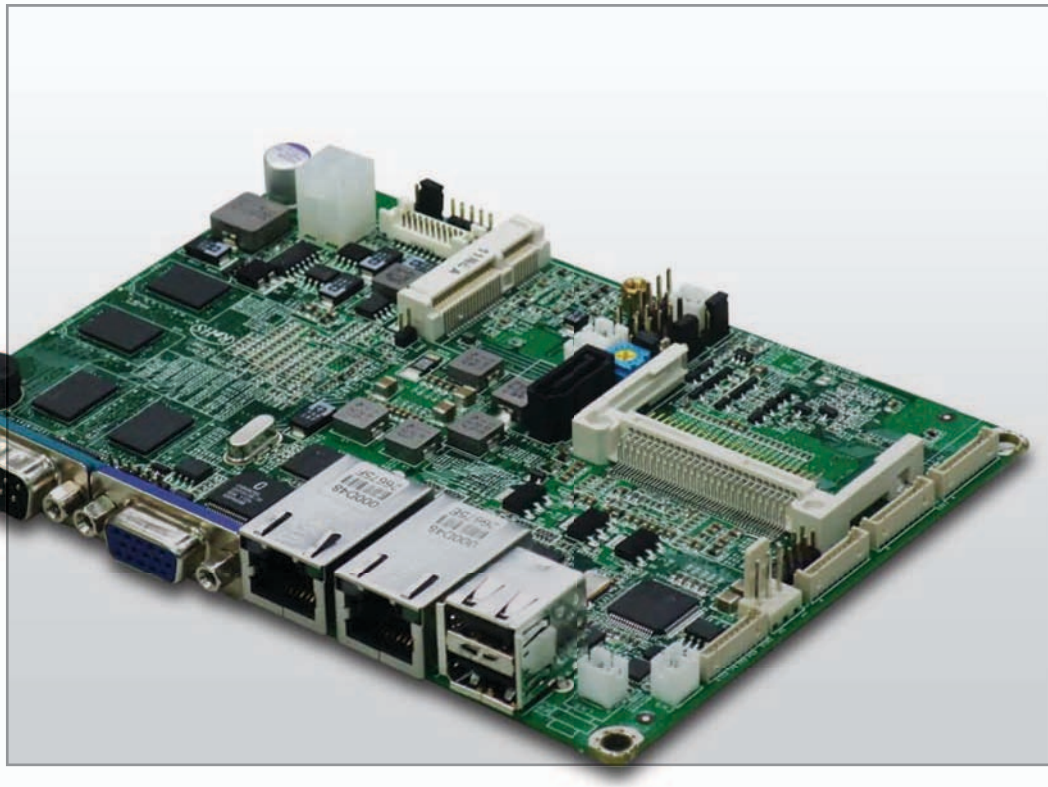
# OXY5314A

3.5" SBC with Intel Tunnel Creek+Topcliff
User's Manual



# Safety Information

## Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Make sure that your power supply is set to the correct voltage in your area.
- If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your local distributor.

## Operation safety

- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter any technical problems with the product, contact your local distributor

## Statement

## Revision History

| Revision | Date (dd.mm.yyyy) | Changes |
|---|---|---|
| Version 1.0 | 09.August.2012 | Initial release |
| Version 1.1 | 02.October.2012 | Remove CN3 power button<br>Remove CN26 DC jack<br>Add CN23 pin define |

## Packing list

- ☐ 1 x OXY5314A 3.5" SBC
- ☐ 1 x CD (driver, user's manual and quick installation guide)
- ☐ 1 x Cable Kit (optional)
  - 2 x COM port cables
  - 1 x SATA cable
  - 1 x SATA power cable
  - 1 x Audio cable

If any of the above items is damaged or missing, please contact your local distributor.

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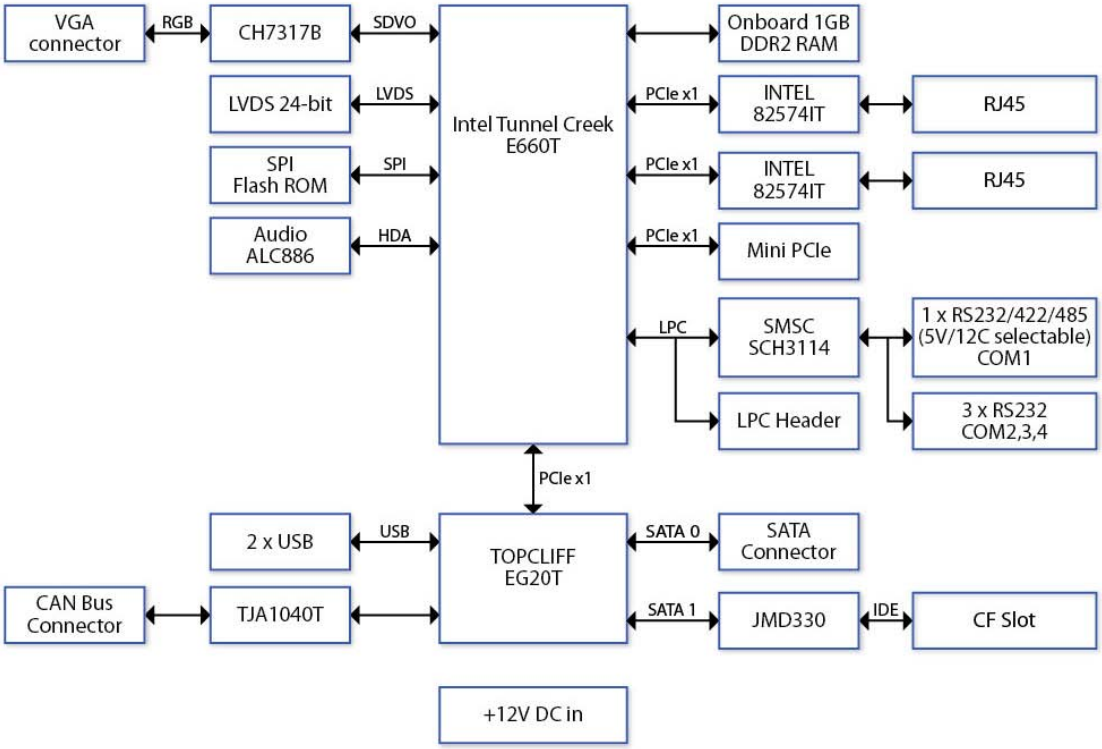
# Chapter 1: Product Information

## 1.1 Block Diagram



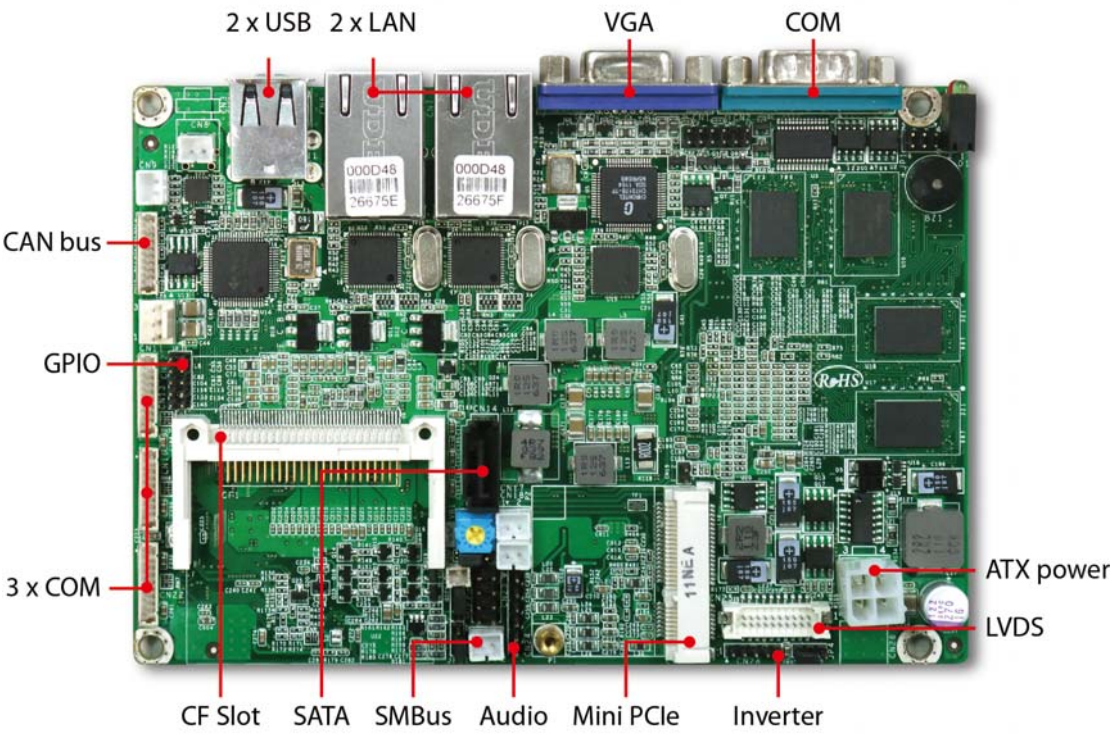
## 1.2 Key Features

| | |
|---|---|
| Processor & System | |
| CPU Type | Intel® Atom™ Tunnel Creek E660T CPU<br>(45nm, 1.3Ghz, 512K L2 Cache) |
| Chipset | Intel® Topcliff EG20T |
| Memory Type | Value for anti-vibration to build-in on board 1GB DDR2 memory |
| BIOS | AMI™ BIOS |
| Super I/O | SMSC SCH3114 |
| Watchdog | 1 - 255 sec. or 1 - 255 min. software programmable, can generate system reset |
| Expansion Slot | |
| Mini PCIe | 1 x Mini PCIe slot (half-size) |
| Display | |
| Chipset | Chrontel 7317B SDVO to VGA transmitter |
| VGA | Yes (Max. resolution 1280 x 1024 @ 70Hz) |
| LVDS | Supports single channel 18/24-bit LVDS |
| Dual Displays Capability | LVDS + VGA |
| Audio | |
| Codec | Realtek ALC886 High Definition Audio Codec<br>*2W amplifier onboard |
| Ethernet | |
| Chipset | 2 x Intel® 82574IT GbE LAN |
| WOL | Yes |
| Boot from LAN | Yes for PXE |
| Rear I/O | |
| VGA | 1 |
| Ethernet | 2 x RJ45 |
| USB | 2 |
| COM | 1 x RS232/422/485 with 5V/12V selection |
| Power Button | Optional |
| Internal I/O | |
| SATA | 1 x SATAII (3Gb/s)<br>1 x 3 pin power connector |
| SSD | 1 x Compact Flash TypeII Socket |
| USB | 2 ports on rear I/O |
| COM | 4 x COM ports<br>• COM1 port supports RS232/422/485 with 5V/12V selection on rear I/O<br>• Com2~4 ports supports RS232 by 1 x 10 pin header |
| LVDS Connector | 20 pin connector |
| DIO | 4 in/4 out |
| CAN Bus | 1 x 10 pin header |
| SMBus | 1 x 2 pin header |
| Audio | 1 x 6 pin header for Mic-in/Lin-in/Lin-out |

| Mechanical and Environment | |
|---|---|
| Form Factor | 3.5" SBC |
| Power Type | 12V DC-in, 4 pin ATX power connector AT/ATX mode support (optional for screw type DC jack) |
| Dimension | 146 x 102mm (5.7" x 4") |
| Operating Temp. | -20°C to 70°C |
| Storage Temp. | -40°C to 85°C |
| Relative humidity | 10% to 90%, non-condensing |

*All specifications and photos are subject to change without notice*

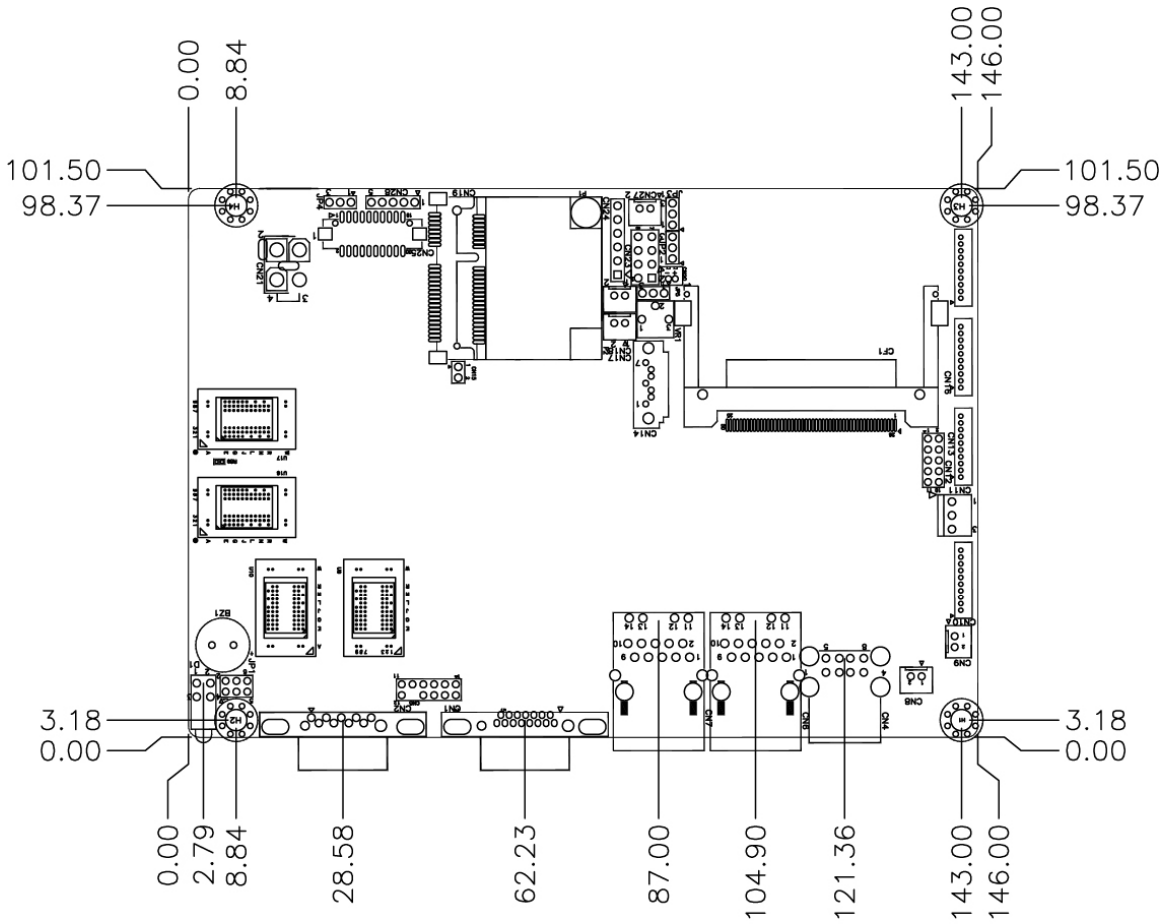
## 1.3 Board Placement

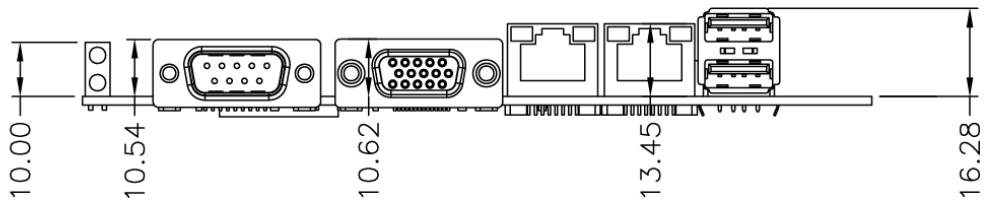


### 1.4 Onboard Connector List

| Connector | Function |
|---|---|
| CN1 | VGA |
| CN2 | COM1 |
| CN4 | USB |
| CN5 | Port 80 |
| CN6 | LAN |
| CN7 | LAN |
| CN8 | POWER SWITCH PIN HEADER |
| CN9 | RESET |
| CN10 | CAN BUS |
| CN11 | HDD POWER CONNECTOR |
| CN12 | DIO |
| CN13 | COM4 |
| CN14 | SATA |
| CN15 | WLAN_LED |
| CN16 | COM3 |
| CN17 | AMP_R |
| CN18 | AMP_L |
| CN19 | MINI PCIE |
| CN20 | BATTERY CONNECTOR |
| CN21 | POWER CONNECTOR |
| CN22 | COM2 |
| CN23 | SPI |
| CN24 | AUDIO |
| CN25 | LVDS |
| CN27 | SMBUS CONNECTOR |
| CN28 | Panel Inverter Connector |
| CF1 | CF CONNECTOR |

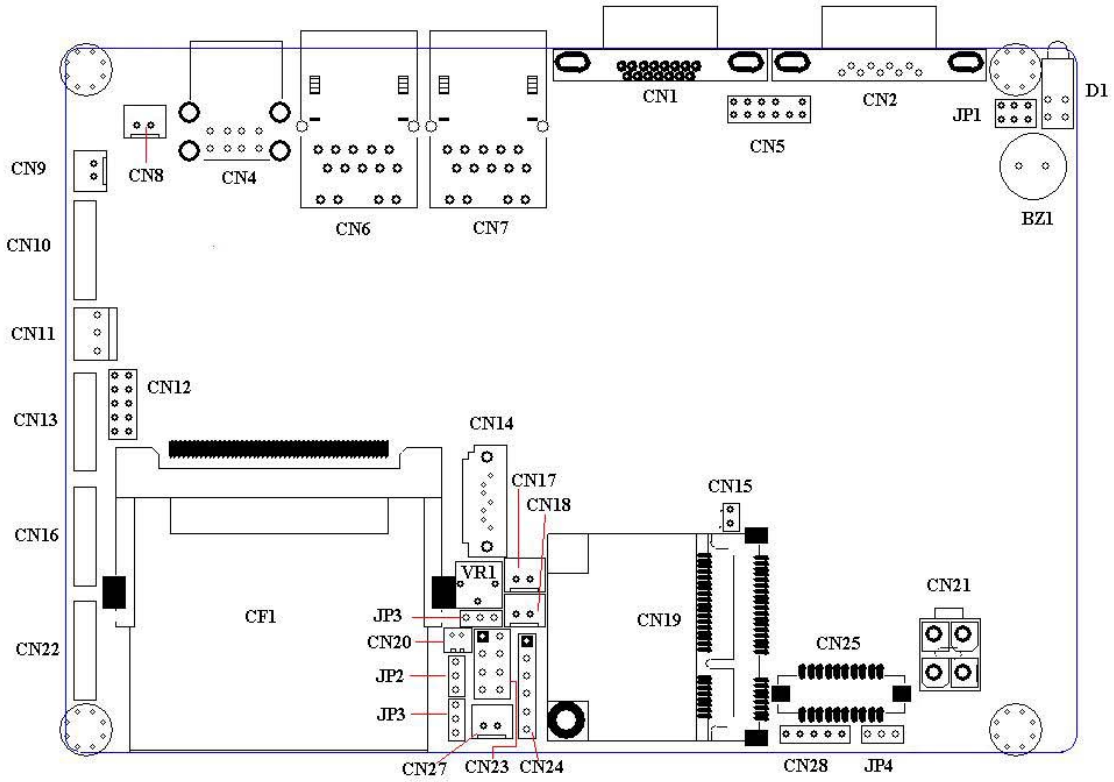
## 1.5 Mechanical Drawings



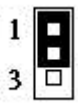
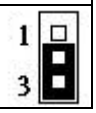



## Chapter 2: Jumpers and Connectors

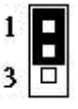
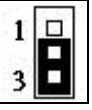
### 2.1 Jumper Settings



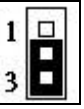

**JP2: Clear CMOS**

| Pin | Setting | |
|---|---|---|
| 1-2 | Normal (Default) |  |
| 2-3 | CLEAR CMOS |  |

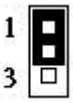
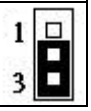
**JP3: LCD BRIGHTNESS CONTROL MODE SELECT**

| Pin | Setting | |
|---|---|---|
| 1-2 | DC MODE |  |
| 2-3 | PWM MODE (Default) |  |

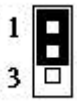
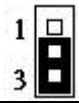
**JP4: LVDS VOLTAGE SELECT**

| Pin | Setting | |
|---|---|---|
| 1-2 | +3.3V (Default) |   |
| 2-3 | +5V |   |

**JP5: AUDIO OUTPUT MODE SELECT**

| Pin | Setting | |
|---|---|---|
| 1-2 | SE Output Mode |   |
| 2-3 | BTL Mode (Default) |   |

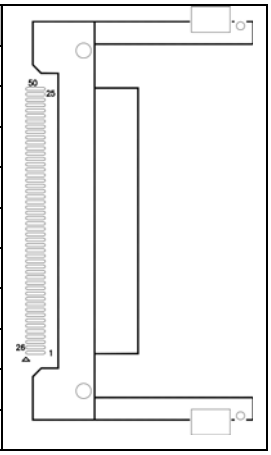
**JP6: AT / ATX MODE SELECT**

| Pin | Setting | |
|---|---|---|
| 1-2 | ATX Mode (Default) |   |
| 2-3 | AT Mode |   |

## 2.2 Onboard Connector Pin Assignment

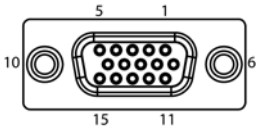
**CF1: CF socket**

| Pin | Define | Pin | Define | Pin | Define | Pin | Define | Pin | Define |
|---|---|---|---|---|---|---|---|---|---|
| 1 | GND | 11 | GND | 21 | D00 | 31 | D15 | 41 | RESET |
| 2 | D03 | 12 | GND | 22 | D01 | 32 | CS | 42 | IORDY |
| 3 | D04 | 13 | VCC | 23 | D02 | 33 | NC | 43 | DREG |
| 4 | D05 | 14 | GND | 24 | WP | 34 | IOR | 44 | DACK |
| 5 | D06 | 15 | GND | 25 | NC | 35 | IOW | 45 | LED |
| 6 | D07 | 16 | GND | 26 | CD | 36 | WE | 46 | BVD |
| 7 | CS | 17 | GND | 27 | D11 | 37 | RDY/BSY | 47 | D08 |
| 8 | GND | 18 | A02 | 28 | D12 | 38 | VCC | 48 | D09 |
| 9 | GND | 19 | A01 | 29 | D13 | 39 | SCSE | 49 | D10 |
| 10 | GND | 20 | A00 | 30 | D14 | 40 | NC | 50 | GND |



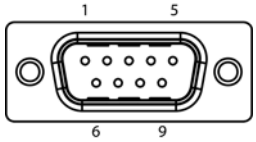

**CN1: VGA connector**

| Pin | Define | Pin | Define |
|---|---|---|---|
| 1 | Red | 2 | Green |
| 3 | Blue | 4 | N.C. |
| 5 | GND | 6 | GND |
| 7 | GND | 8 | GND |
| 9 | PWR | 10 | GND |
| 11 | N.C. | 12 | DDC SDA |
| 13 | HSYNC | 14 | VSYNC |
| 15 | DDC SCL | | |




**CN2: COM connector**

| Pin | Define | Pin | Define |
|---|---|---|---|
| 1 | DCD# | 2 | RXD# |
| 3 | TXD# | 4 | DTR# |
| 5 | GND | 6 | DSR# |
| 7 | RTS# | 8 | CTS# |
| 9 | RI# | | |

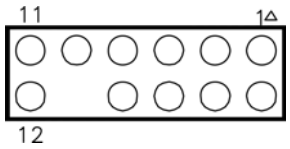



**CN4: USB connector**

| Pin | Define | Pin | Define |
|---|---|---|---|
| 1 | +5V | 2 | DATA0- |
| 3 | DATA0+ | 4 | GND |
| 5 | +5V | 6 | DATA1- |
| 7 | DATA1+ | 8 | GND |

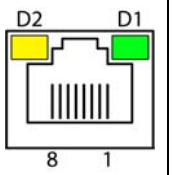
**CN5: LPC connector**

| Pin | Define | Pin | Define |
|---|---|---|---|
| 1 | +3.3V | 2 | AD 0 |
| 3 | AD 1 | 4 | AD 2 |
| 5 | AD 3 | 6 | Frame# |
| 7 | PCIERST# | 8 | +5V |
| 9 | CLOCK | 10 | |
| 11 | GND | 12 | GND |




**CN6/CN7: Giga LAN RJ45 connector**

| Pin | Define |
|---|---|
| 1 | MDI0+ |
| 2 | MDI0- |
| 3 | MDI1+ |
| 4 | MDI2+ |
| 5 | MDI2- |
| 6 | MDI1- |
| 7 | MDI3+ |
| 8 | MDI3- |




| LED | |
|---|---|
| **D2:** Link/Activity LED | |
| Link | Green |
| Activity | Blinking |
| | |
| **D1:** Bi-Color Speed LED | |
| 10 Mbps | Off |
| 100 Mbps | Yellow |
| 1000Mbps | Green |

**CN8: Power Switch pin header**

| Pin | Define |
|---|---|
| 1 | PW_SW |
| 2 | GND |

**CN9: Reset pin header**

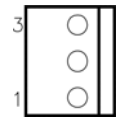
| Pin | Define |
|---|---|
| 1 | RESET |
| 2 | GND |

**CN10: CANBUS connector**

| Pin | Define |
|---|---|
| 1 | GND |
| 2 | CAN_L |
| 3 | CAN_H |
| 4 | CAN_GND |
| 5 | NC |
| 6 | NC |
| 7 | +5V |
| 8 | NC |
| 9 | NC |
| 10 | NC |

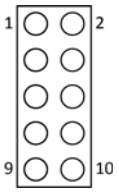
**CN11: SATA Power connector**

| Pin | Define |
|---|---|
| 1 | GND |
| 2 | +12V |
| 3 | +5V |



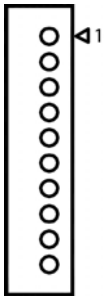

**CN12:GPIO**

| Pin | Define | Pin | Define |
|---|---|---|---|
| 1 | GPI | 2 | GPO |
| 3 | GPI | 4 | GPO |
| 5 | GPI | 6 | GPO |
| 7 | GPI | 8 | GPO |
| 9 | +5V | 10 | GND |



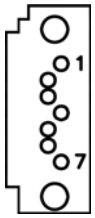

**CN13/16/22: COM port connector**

| Pin | Define |
|---|---|
| 1 | DCD# |
| 2 | DSR# |
| 3 | RXD# |
| 4 | RTS# |
| 5 | TXD |
| 6 | CTS## |
| 7 | DTR# |
| 8 | RI# |
| 9 | GND |
| 10 | +5V |




**CN14: SATA connector**

| Pin | Define |
|---|---|
| 1 | GND |
| 2 | TXP |
| 3 | TXN |
| 4 | GND |
| 5 | RXN |
| 6 | RXP |
| 7 | GND |




**CN17: 2W Audio output pin header**

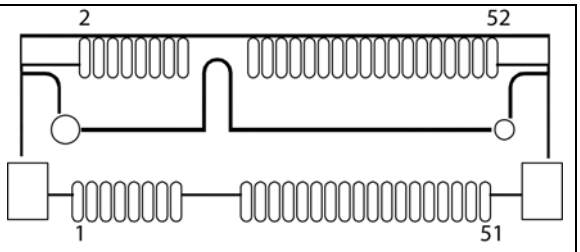
| Pin | Define |
|---|---|
| 1 | RIGHT+ |
| 2 | RIGHT- |

**CN18: 2W Audio output pin header**

| Pin | Define | |
|---|---|---|
| 1 | LEFT+ |  |
| 2 | LEFT- | |

**CN19: Mini PCIe socket**

| Pin | Define | Pin | Define |
|---|---|---|---|
| 1 | WAKE# | 2 | +3.3V |
| 3 | Reserved | 4 | GND |
| 5 | Reserved | 6 | +1.5V |
| 7 | CLKREQ# | 8 | Reserved |
| 9 | GND | 10 | Reserved |
| 11 | REF CLK- | 12 | Reserved |
| 13 | REF CLK+ | 14 | Reserved |
| 15 | GND | 16 | Reserved |
| 17 | Reserved | 18 | GND |
| 19 | Reserved | 20 | Reserved |
| 21 | GND | 22 | PERST# |
| 23 | PERN0 | 24 | +3.3VAUX |
| 25 | PERP0 | 26 | GND |
| 27 | GND | 28 | +1.5V |
| 29 | GND | 30 | SMB_CLK |
| 31 | PETN0 | 32 | SMB_DATA |
| 33 | PETP0 | 34 | GND |
| 35 | GND | 36 | USB_D- |
| 37 | Reserved | 38 | USB_D+ |
| 39 | Reserved | 40 | GND |
| 41 | Reserved | 42 | LED_WWAN# |
| 43 | Reserved | 44 | LED_WLAN# |
| 45 | Reserved | 46 | LED_WPAN# |
| 47 | Reserved | 48 | +1.5V |
| 49 | Reserved | 50 | GND |
| 51 | Reserved | 52 | +3.3V |




**CN15: Mini PCIe LED**

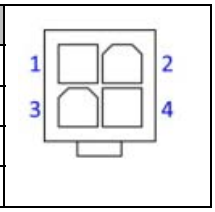
| Pin | Define | |
|---|---|---|
| 1 | +3.3V |  |
| 2 | LED_WLAN# | |

**CN20: Battery Connector**

| Pin | Define | |
|---|---|---|
| 1 | +3.3V |  |
| 2 | GND | |

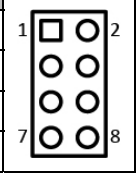
**CN21: DC Power connector**

| Pin | Define |
|---|---|
| 1 | GND |
| 2 | GND |
| 3 | +12V |
| 4 | +12V |




**CN23: SPI**

| Pin | Define | Pin | Define |
|---|---|---|---|
| 1 | VCC3_SPI | 2 | GND |
| 3 | SPI_CS_N | 4 | SPI_CLK |
| 5 | SPI_MISO | 6 | SPI_MOSI |
| 7 | | 8 | FLASH_IO |




**CN24: Audio connector**

| Pin | Define |
|---|---|
| 1 | SPKR_R |
| 2 | GND |
| 3 | SPKR_L |
| 4 | LINE_IN_R |
| 5 | MIC_IN |
| 6 | LINE_IN_L |


**CN25: LVDS connector**

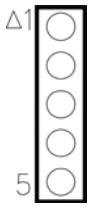
| Pin | Define | Pin | Define |
|---|---|---|---|
| 1 | TX0+ | 2 | TX0- |
| 3 | GND | 4 | GND |
| 5 | TX1+ | 6 | TX1- |
| 7 | GND | 8 | VCC_LCD |
| 9 | TX2+ | 10 | TX2- |
| 11 | TXC+ | 12 | TXC- |
| 13 | GND | 14 | GND |
| 15 | TX3+ | 16 | TX3- |
| 17 | ENABKL | 18 | VCC_LCD |
| 19 | I2C_DAT | 20 | I2C_CLK |


**CN27: SMBUS connector**

| Pin | Define |
|---|---|
| 1 | SMB_DATA |
| 2 | SMB_CLK |

**CN28: Panel inverter connector**

| Pin | Define |
|---|---|
| 1 | +12V |
| 2 | GND |
| 3 | Backlight Enable |
| 4 | Brightness Control |
| 5 | +5V |



# Chapter 3: Getting Started

## 3.1 Installing the CF card

The OXY5314A built-in CF Type II Socket

| | |
|---|---|
|  | Disconnect all power supplies to the board before installing a memory module to prevent damage to the board and memory module. |

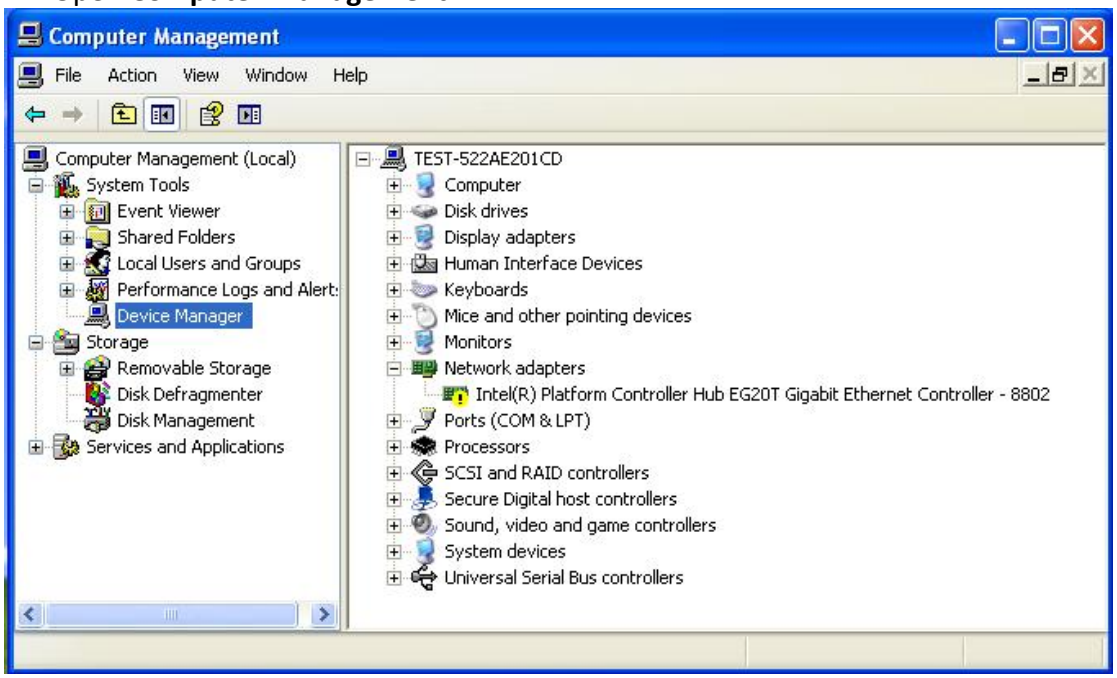
To install a CF card:

Step 1: Locate the CF card socket. Locate the CompactFlash® slot.
Step 2: Align the CF card. Align the CompactFlash® card. The label side should be facing away from the board. The grooves on the CompactFlash® slot ensure that the card cannot be inserted the wrong way.
Step 3: Insert the CF card. Push until the CompactFlash® card is firmly seated in the slot

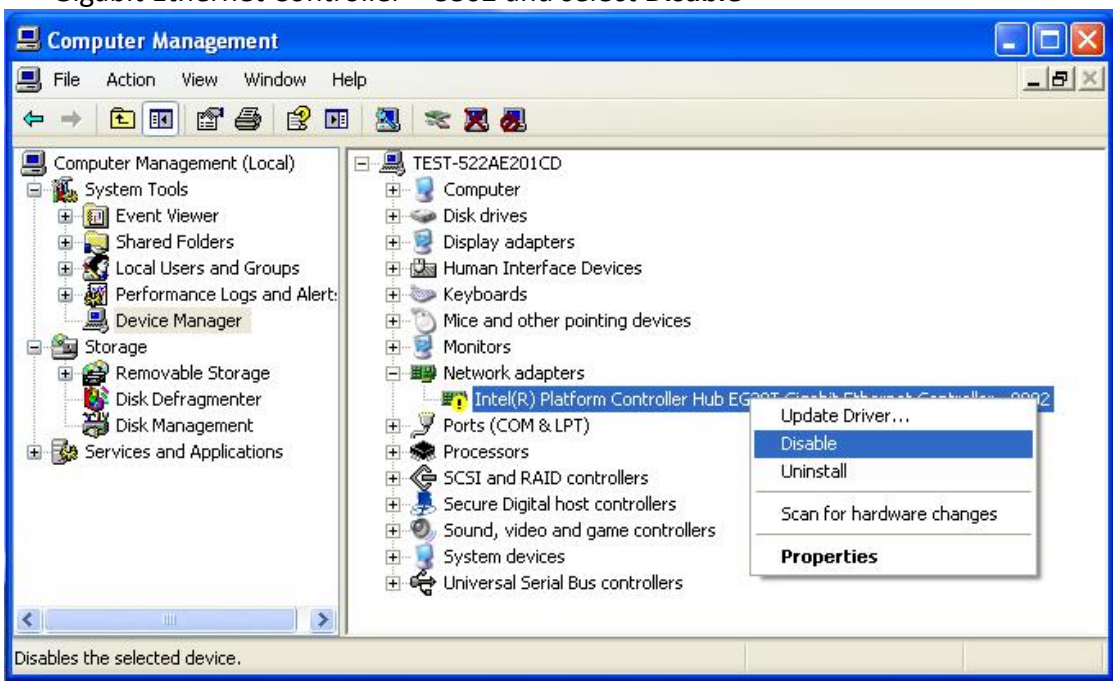
## 3.2 Disable EG20T GbE Controller instruction

This section will explain how to disable EG20T GbE Controller
Note: it depends on user's application.

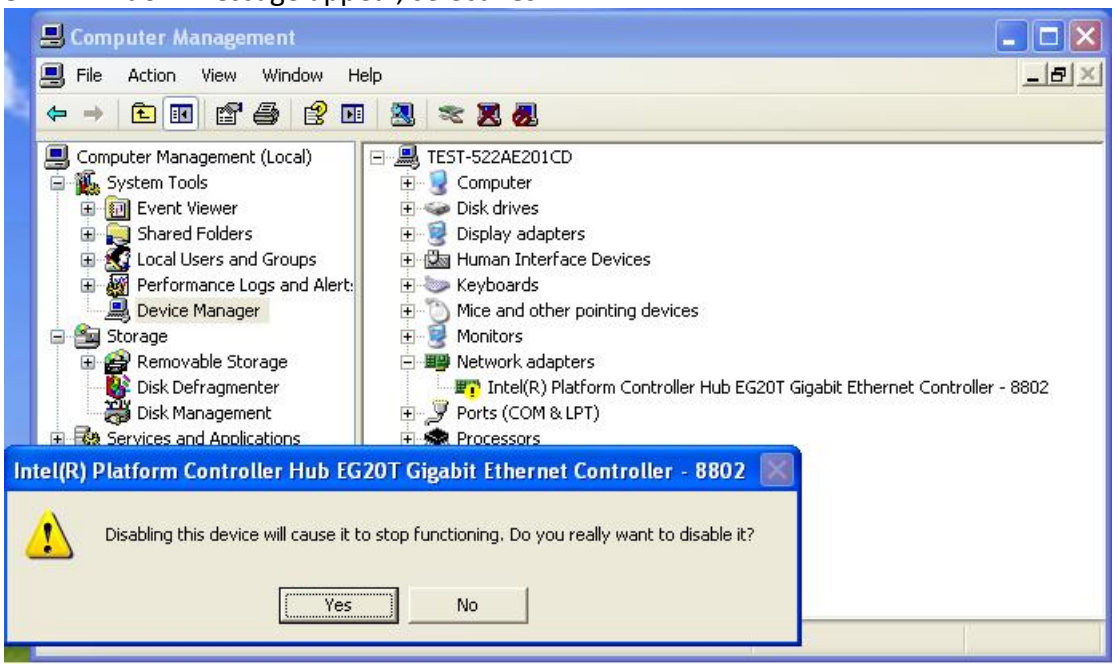
1. Open **Computer Management**



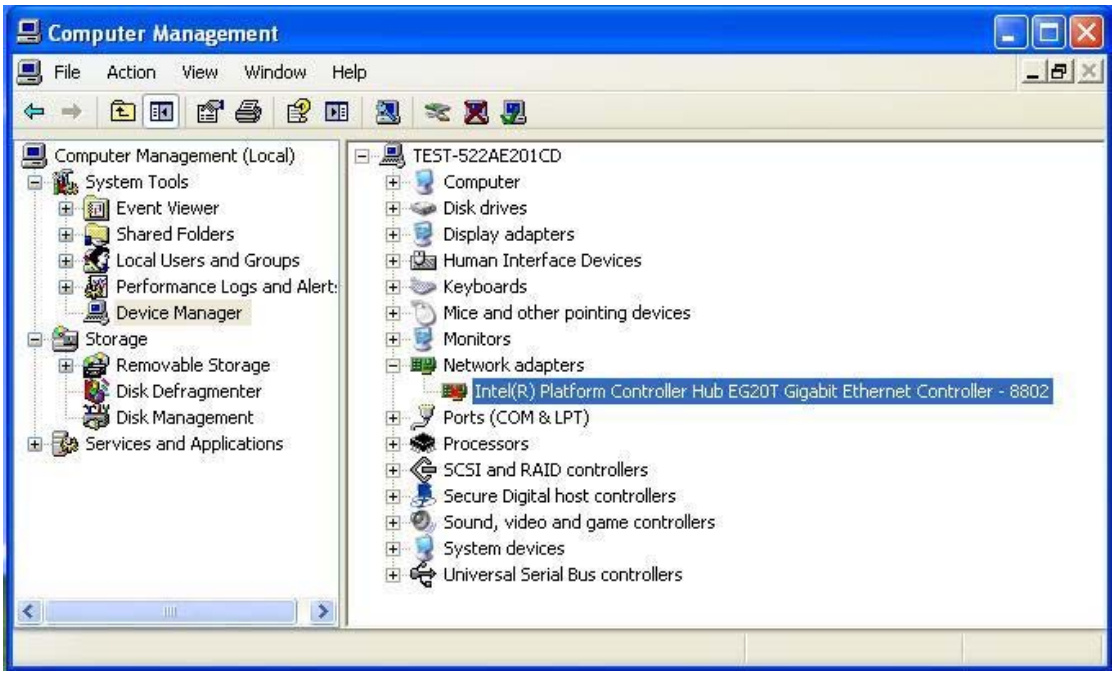
2. Choose **Device Manager**, then right click on Intel(R) Platform Controller Hub EG20T Gigabit Ethernet Controller – 8802 and select **Disable**




3. A window message appear, select **Yes**



4. The device will be disabled



# Chapter 4: AMI BIOS UTILITY

This chapter provides users with detailed descriptions on how to set up a basic system configuration through the AMI BIOS setup utility.

## 4.1 Starting

To enter the setup screens, perform the following steps:

- Turn on the computer and press the <Del> key immediately.
- After the <Del> key is pressed, the main BIOS setup menu displays. Other setup screens can be accessed from the main BIOS setup menu, such as the Chipset and Power menus.

## 4.2 Navigation Keys

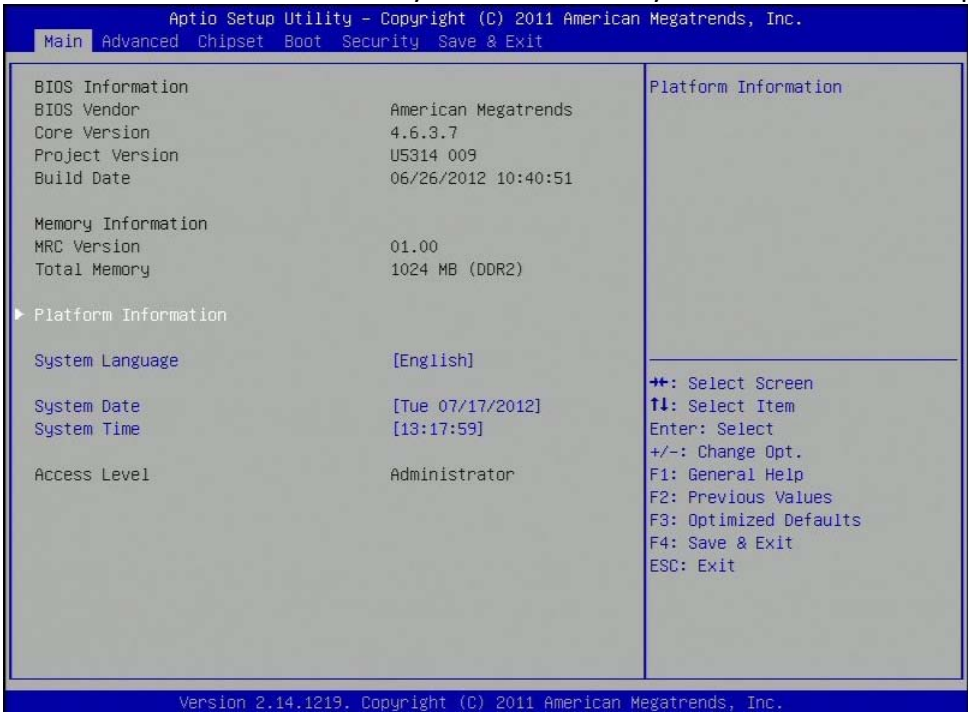
The BIOS setup/utility uses a key-based navigation system called hot keys. Most of the BIOS setup utility hot keys can be used at any time during the setup navigation process. Some of the hot keys are <F1>, <F10>, <Enter>, <ESC>, and <Arrow> keys.

Some of the navigation keys may differ from one screen to another.

| | |
|---|---|
| Left/Right | The Left and Right <Arrow> keys moves the cursor to select a menu. |
| Up/Down | The Up and Down <Arrow> keys moves the cursor to select a setup screen or sub-screen. |
| +– Plus/Minus | The Plus and Minus <Arrow> keys changes the field value of a particular setup setting. |
| Tab | The <Tab> key selects the setup fields. |
| F1 | The <F1> key displays the General Help screen. |
| F10 | The <F10> key saves any changes made and exits the BIOS setup utility. |
| Esc | The <Esc> key discards any changes made and exits the BIOS setup utility. |
| Enter | The <Enter> key displays a sub-screen or changes a selected or highlighted option in each menu. |

## 4.3 Main Menu

The Main menu is the first screen that you will see when you enter the BIOS Setup Utility.




**System Language**

Use this function to select the system language. Currently, only English is supported.

**System Date**

The date format is <day>, <month>, <date>, <year>. Day displays a day, from Monday to Sunday. Month displays the month, from January to December. Date displays the date, from 1 to 31. Year displays the year, from 1999 to 2099.

**System Time**

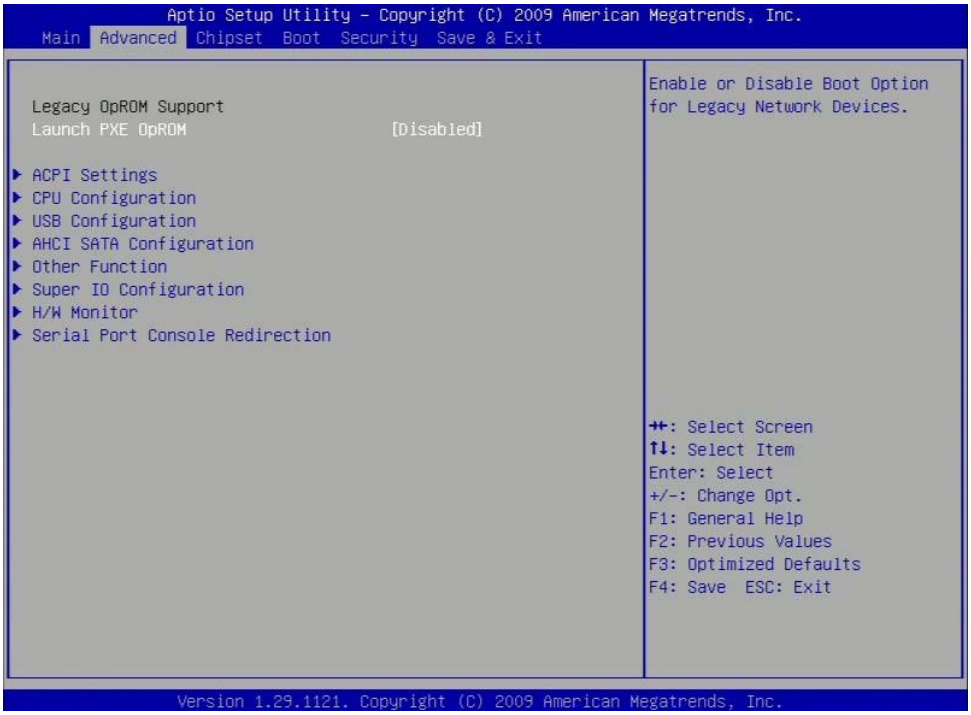
The time format is <hour>, <minute>, <second>. The time is based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00. Hour displays hours from 00 to 23. Minute displays minutes from 00 to 59. Second displays seconds from 00 to 59.

**Access Level**

Displays the access level of the current user in the BIOS.

## 4.4 Advanced Menu

The Advanced menu allows you to configure your system for basic operation. Some entries are defaults required by the system board, while others, if enabled, will improve the performance of your system or let you set some features according to your preference.

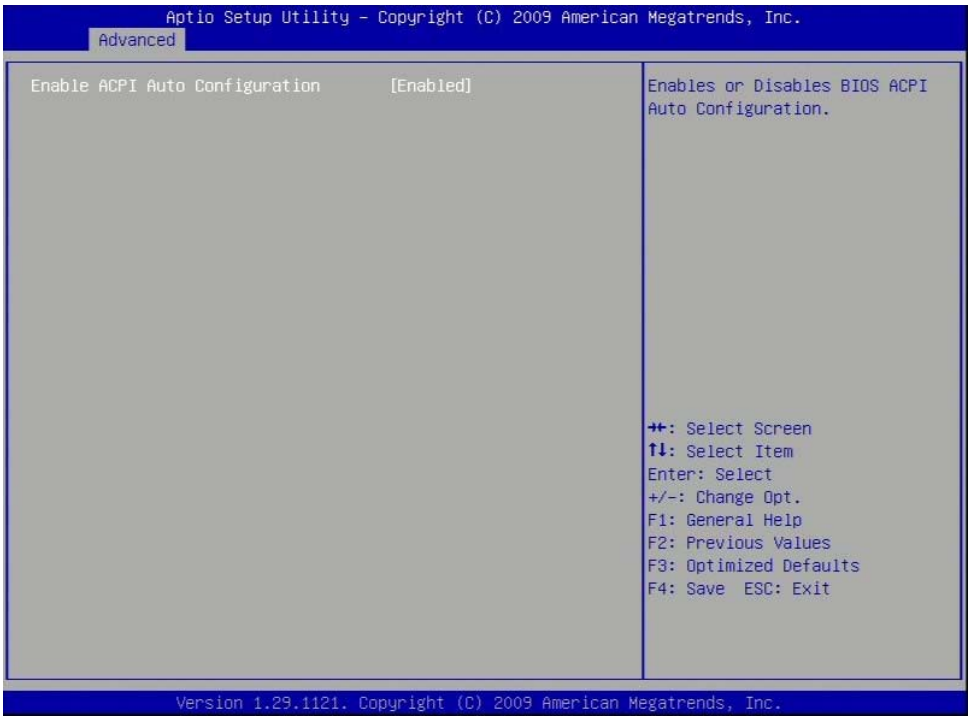



**Launch PXE OpROM**

Enables or disables the boot option for legacy network devices. Default setting: Disabled

### 4.4.1 ACPI Settings

System ACPI Parameters.

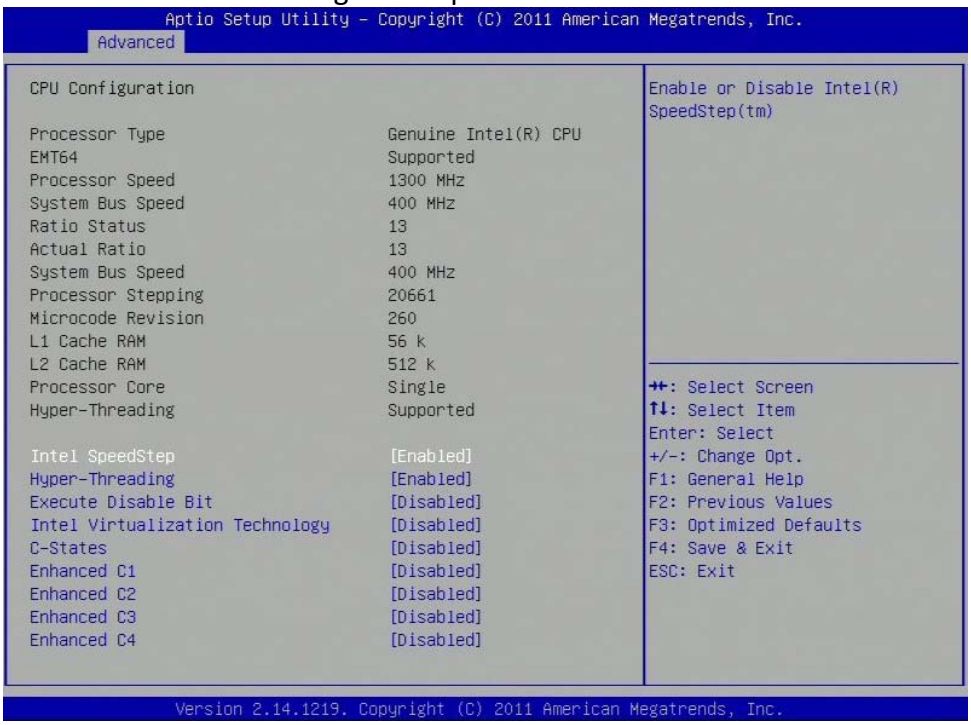



**Enable ACPI Auto Configuration**

Use this item to enable or disable BIOS ACPI Auto Configuration. Default setting is Enabled.

### 4.4.2 CPU Configuration

This section shows the CPU configuration parameters.



**Intel SpeedStep**
Enabled or Disable Intel® SpeedStep ™. Default setting is Enabled.

**Hyper-threading**
Enabled or Disable hyper-threading technology. Default setting is Enabled.

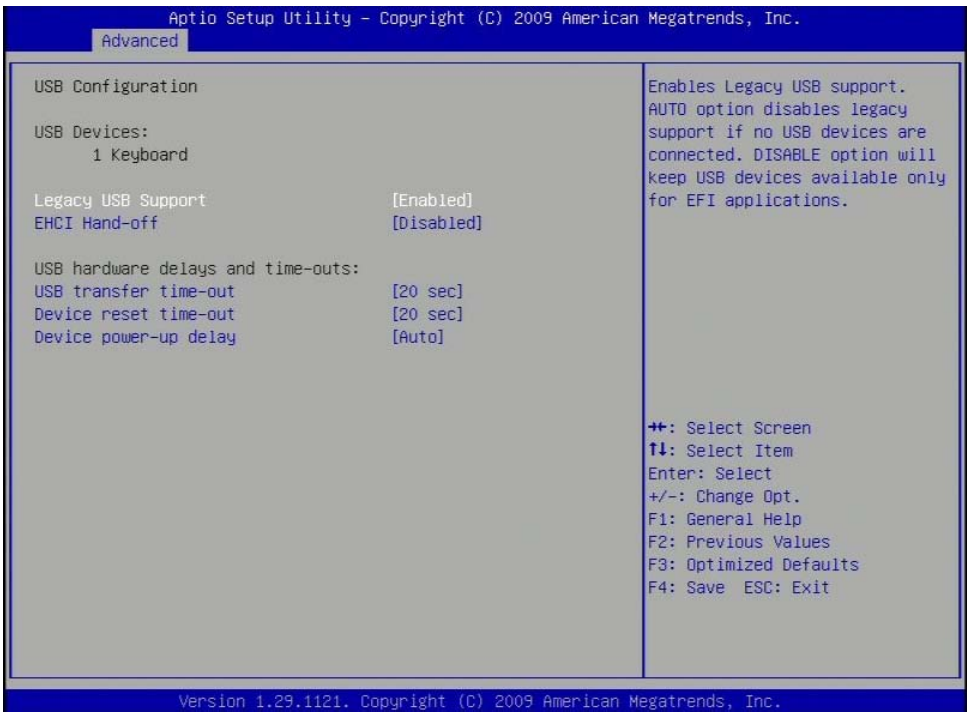
**Execute Disable Bit**
When this field is set to Disabled, it will force the XD feature flag to always return to 0. XD can prevent certain classes of malicious buffer overflow attacks when combined with a supporting OS.

**Intel Virtualization Technology**
This function is used to enable a Virtual Machine Manager (VMM) to utilize the additional hardware capabilities provided by the Vanderpool Technology. To change the state of this function, a hardware reset is necessary. Default setting is Disabled.

**C-States**
Modern CPUs can be put into a deeper sleeping state when idle at the cost of longer wake-up times. Default setting is Disabled.

### 4.4.3 USB Configuration

This option allows the user to view and configure the settings of the USB configuration parameters.



**Legacy USB Support**

This function is required for booting from USB devices and for operating systems which do not support USB themselves (mainly DOS and some BootLoaders). Default setting is Enabled

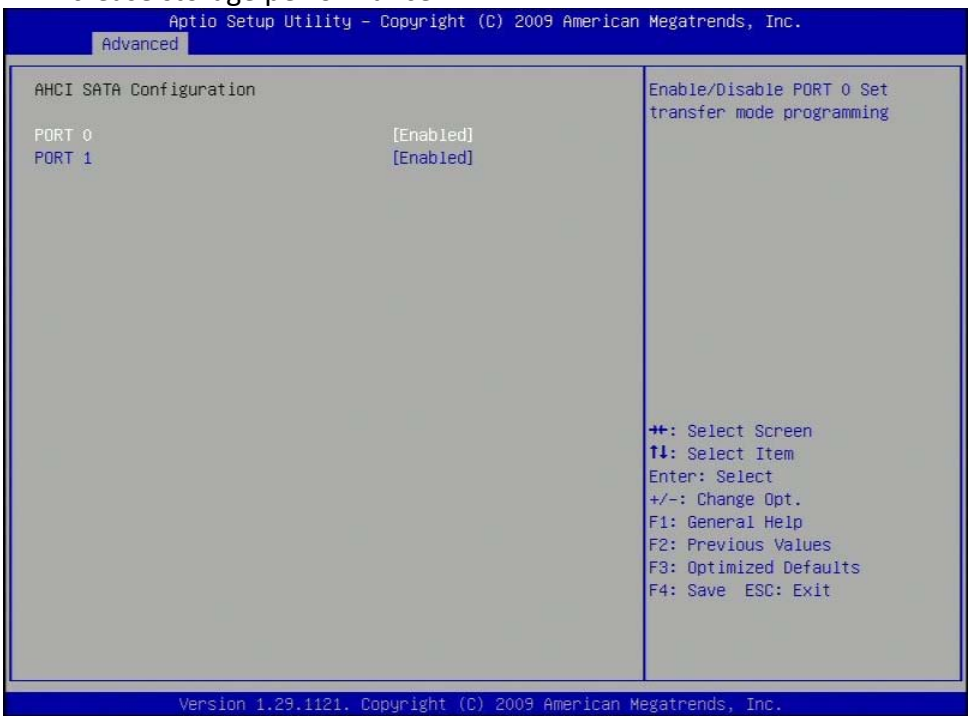
| | |
|---|---|
| Disabled | Use this setting to disable legacy USB support. |
| Enabled | Use this setting to enable legacy USB support. |
| Auto | Use this setting to enable legacy USB support if there are USB devices present. |

**EHCI Hand-off**

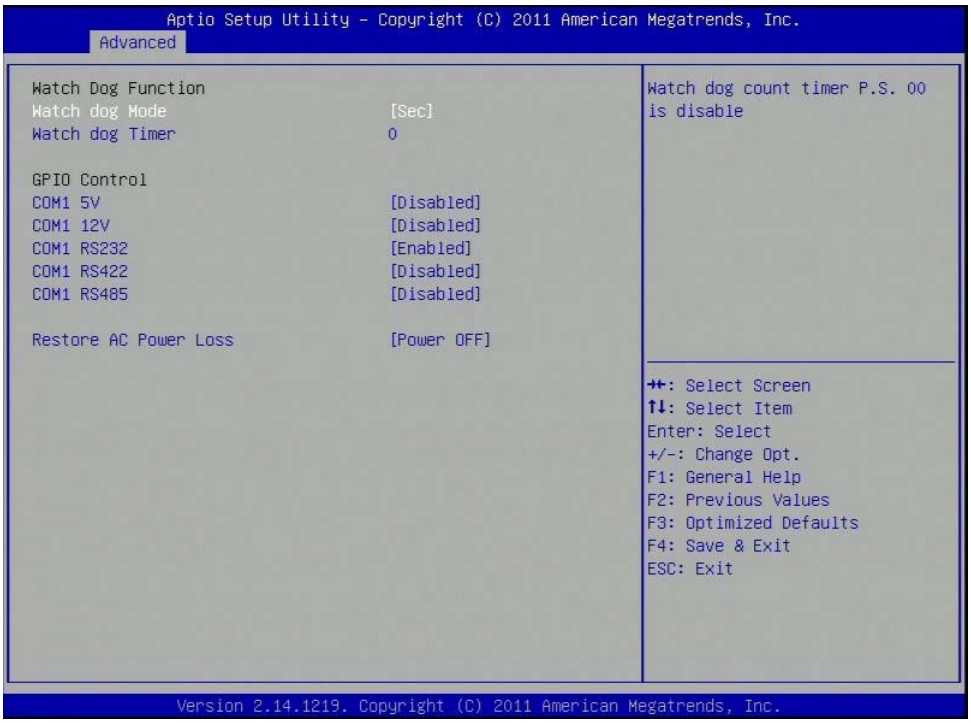
This is a workaround feature for Operating Systems without EHCI hand-off support. The EHCI ownership must be claimed by EHCI Driver. Default setting is Disabled.

### 4.4.4 AHCI SATA Configuration

This option configures the Serial ATA drives to use AHCI (Advanced Host Controller Interface). AHCI allows the storage driver to enable the advanced Serial ATA features which will increase storage performance.



### 4.4.5 Other Function

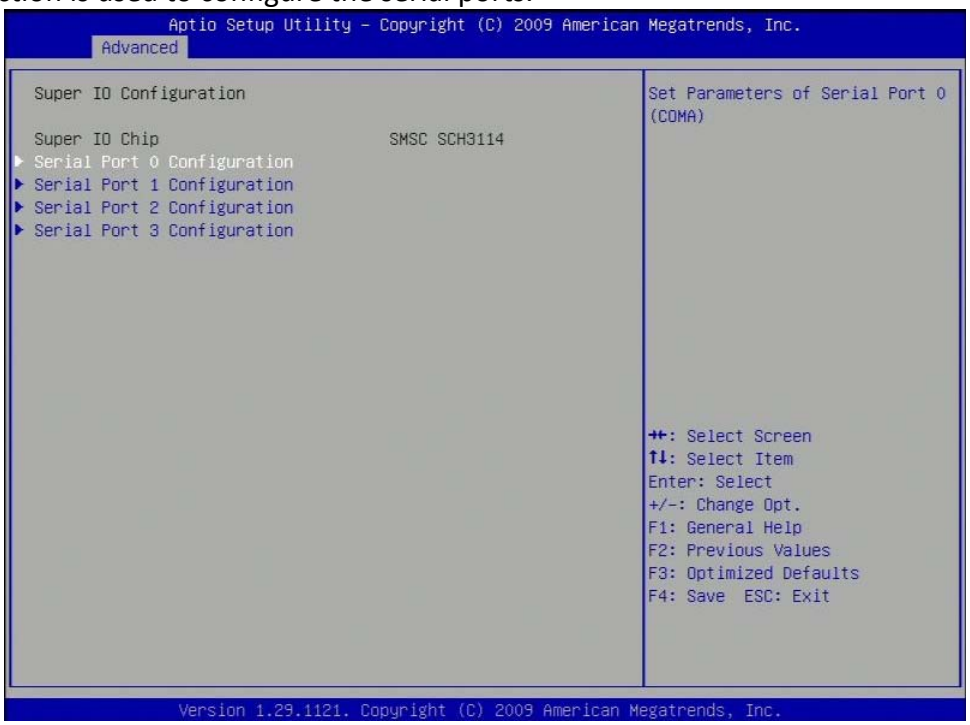



**Restore AC Power Loss**

| | |
|---|---|
| Power Off | When power returns after an AC power failure, the system's power is off. You must press the power button to power-on the system. |
| Power On | When power returns after an AC power failure, the system will automatically power-on. |
| Last State | When power returns after an AC power failure, the system will return to the state where you left off before power failure occurs. If the system's power is off when AC power failure occurs, it will remain off when power returns. If the system's power is on when AC power failure occurs, the system will power-on when power returns. |

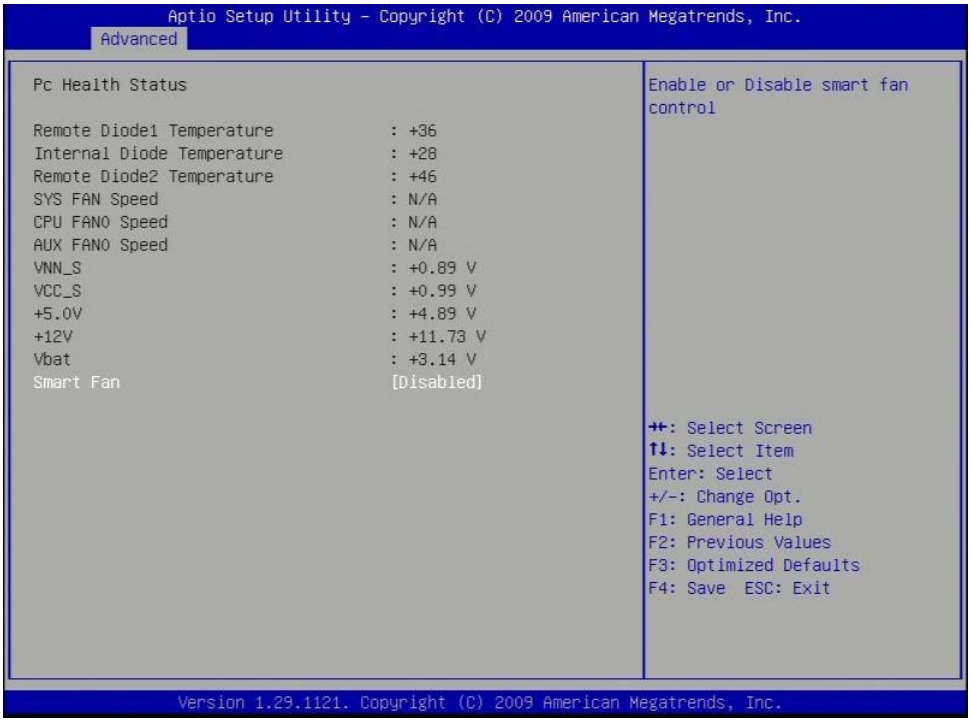
### 4.4.6 Super IO Configuration

This section is used to configure the serial ports.



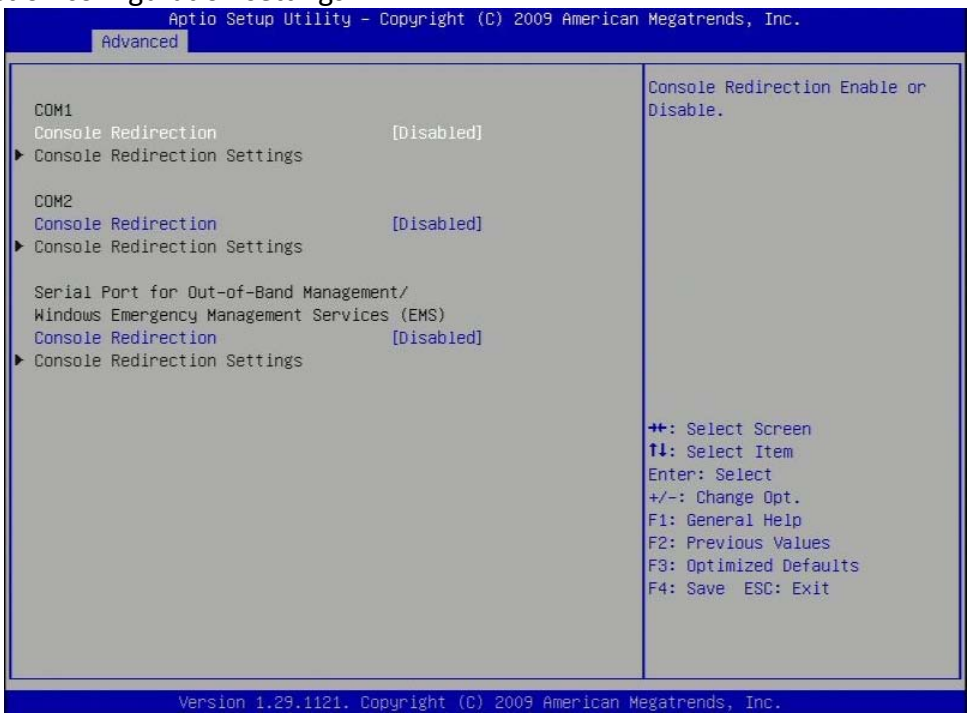

### 4.4.7 H/W Monitor

This section is used to monitor hardware status such as temperature, fan speed and voltages.



### 4.4.8 Serial Port Console Redirection

This screen provides information about functions for specifying the Serial Port Console Redirection configuration settings.

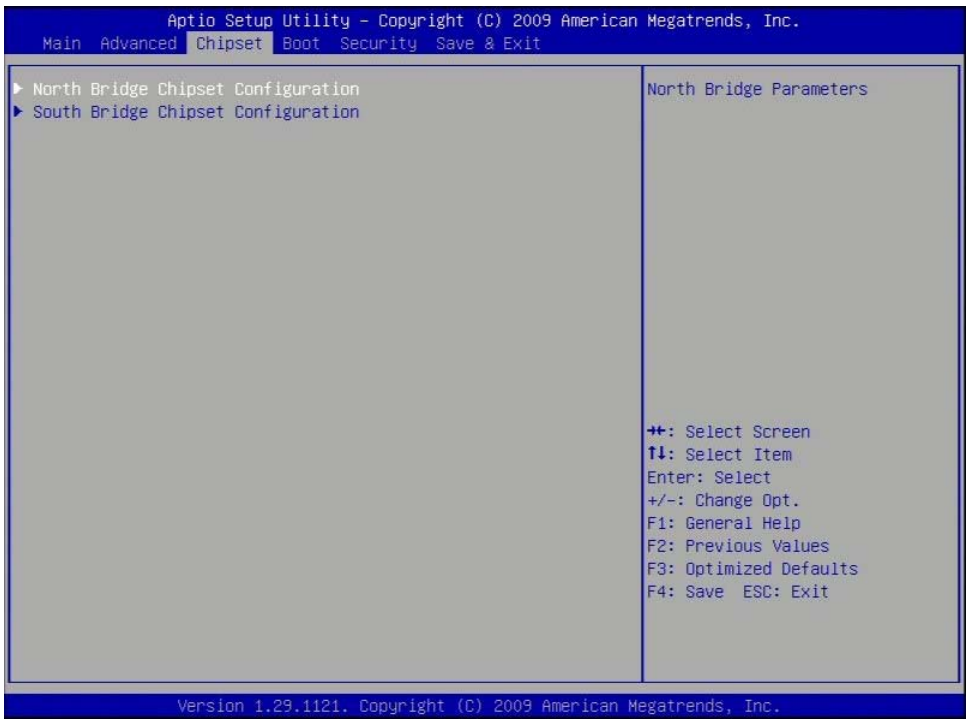



**Serial Port for Out-of-Band Management/Windows Emergency Management Services (EMS)**

The following functions control the presence and content of the ACPI serial port redirection table (SPCR). This table is mainly used by the Windows server variants to provide Windows Emergency Management Services (EMS). This functionality is totally independent from serial redirection of other console output.

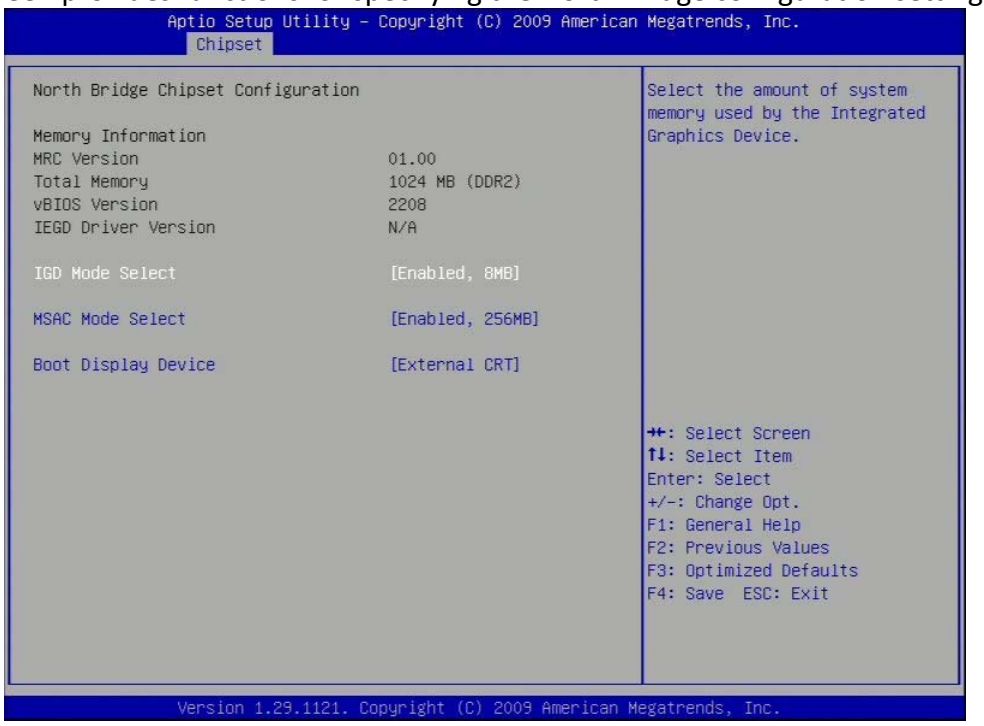
## 4.5 Chipset

Select the Chipset tab to enter the Chipset Setup screen. This screen lists the chipset configuration sub screens.



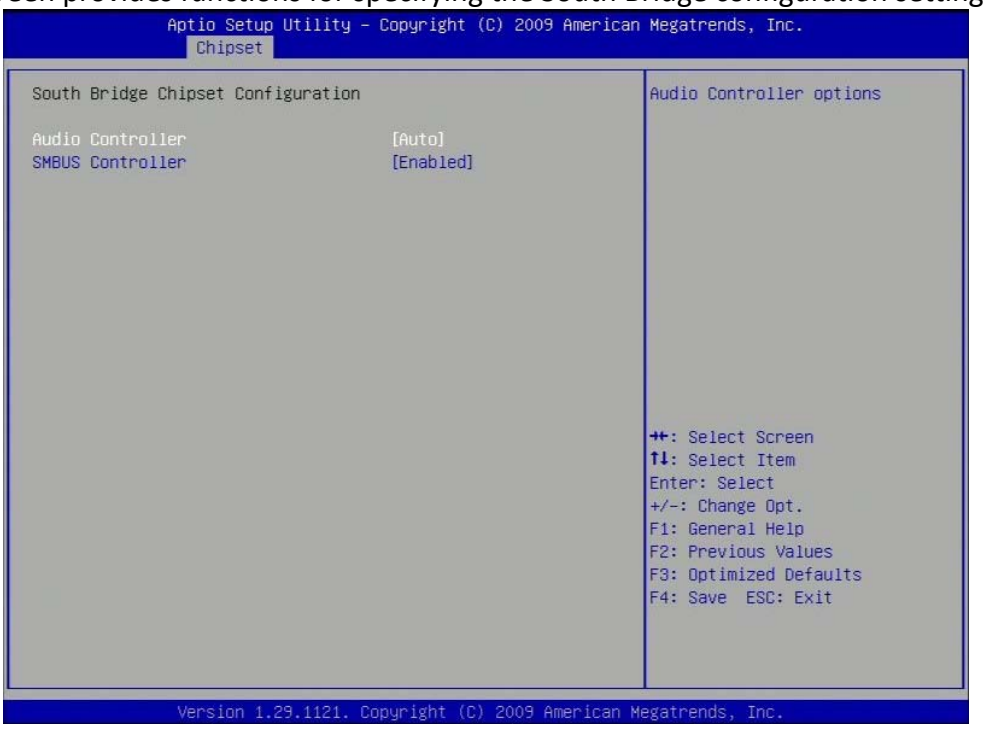

### 4.5.1 North Bridge Chipset Configuration

This screen provides functions for specifying the North Bridge configuration settings.



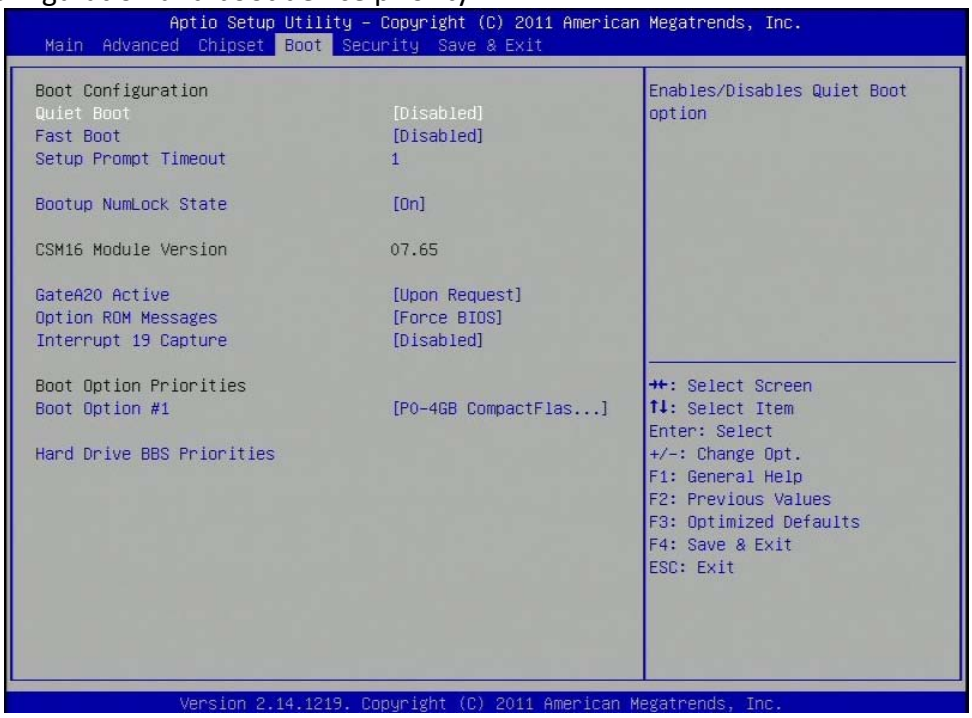
### 4.5.1 South Bridge Chipset Configuration

This screen provides functions for specifying the South Bridge configuration settings.




## 4.6 Boot

Select the Boot tab to enter the Boot Setup screen. This screen lists the sub-screens for boot configuration and boot device priority.




**Quiet Boot**

| | |
|---|---|
| Enabled | Displays OEM logo instead of the POST messages. |
| Disabled | Displays normal POST messages. |

**Fast Boot**
Enables or disables fast boot technology to speed up the system boot time. This is achieved by skipping specific tests during BIOS POST routine, there are VGA, USB, and PS2 to choose from.

**Setup Prompt Timeout**
Selects the number of seconds to wait for the setup activation key. 65535(0xFFFF) denotes indefinite waiting.

**Bootup NumLock State**
This function is used to set the state of the keyboard's numlock function after POST.

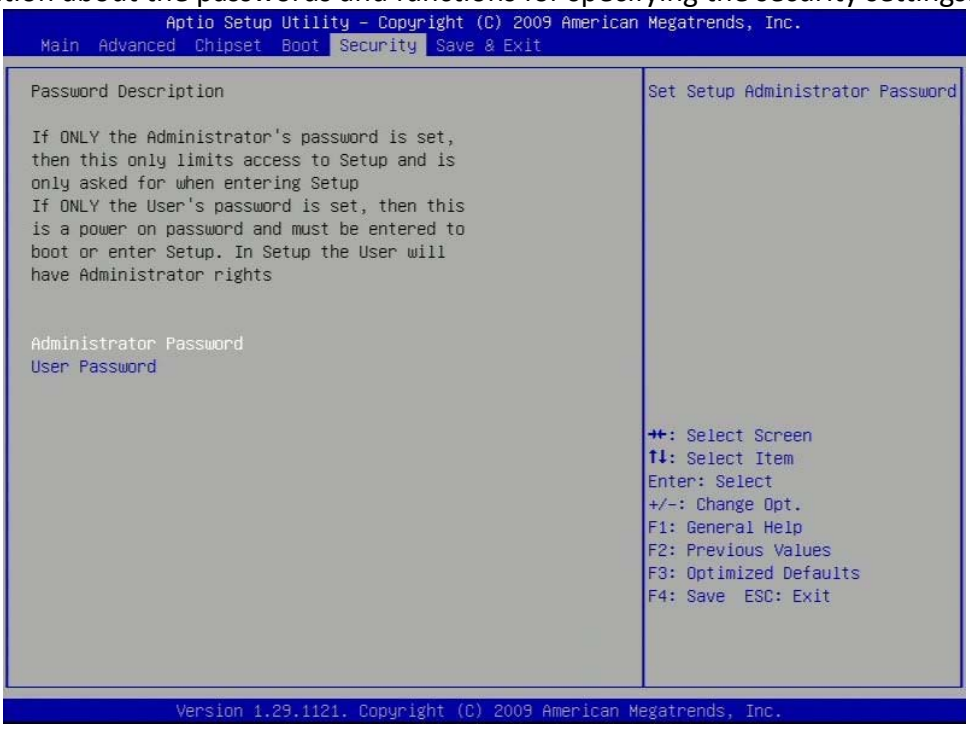
**GateA20 Active**

| | |
|---|---|
| Upon Request | GA20 can be disabled using BIOS services |
| Always | Does not allow disabling GA20. This option is useful when an RT code is executed above 1M. |

**Option ROM Messages**
Selects the display mode for Option ROM. The options are Force BIOS and Keep Current.

**Interrupt 19 Capture**
This function is used to specify if legacy PCI option ROMs are allowed to capture software interrupt 19h. Default setting: Disabled

## 4.7 Security
Select the Security tab to enter the Security Setup screen. This screen provides information about the passwords and functions for specifying the security settings.

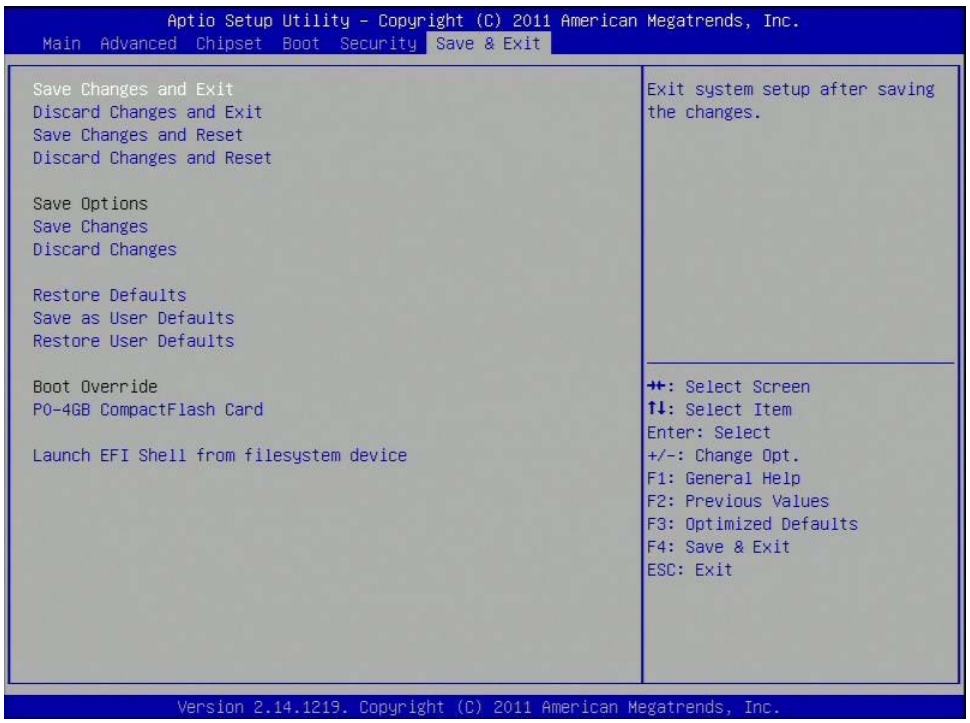


**Administrator Password**
Select this to reconfigure the administrator's password.

**User Password**
Select this to reconfigure the user's password.

## 4.8 Save and exit

Select the Save & Exit tab to enter the Save & Exit menu screen. This screen provides functions for handling changes made to BIOS settings and the exiting of the Setup program.




**Save Changes and Exit**
Exit system setup after saving the changes.

**Disacard Changes and Exit**
Exit system setup without saving any changes.

**Save Changes and Reset**
Reset the system after saving the changes.

**Discard Changes and Reset**
Reset system setup without saving any changes.

**Save Options**
This function is used to save all changes made within the Setup to Flash. This function returns to Setup.

**Save Changes**
Save Changes done so far to any of the setup options.

**Discard Changes**
Discard Changes done so far to any of the setup options.

**Restore Defaults**
Restore/Load Defaults values for all the setup options.

**Save as User Defaults**
Save the changes done so far as User Defaults.

**Restore User Defaults**
Restore the User Defaults to all the setup options.

**Boot Override**
Pressing ENTER causes the system to enter the OS.

**Launch EFI Shell from filesystem device**
To launch EFI shell from a file system device, select this field and press <Enter>.