



wiwynn
Wiwynn™ SV7220

BIOS

User Manual

Version 1.0

Published July 2014

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Contents

BIOS Setup	5
Entering BIOS Setup.....	5
BIOS Hotkeys.....	5
Menu Bar.....	5
Navigation Keys	6
1. Main Menu	7
2. Advanced Menu	8
2.1 Show Hidden Options	9
2.2 CPU Configuration.....	9
2.2.1 CPU Power Management Configuration.....	11
2.3 Memory Configuration	13
2.4 IOH & QPI Configuration	17
2.4.1 Intel® VT for Directed I/O Configuration.....	17
2.4.2 IOH Configuration	18
2.4.3 QPI Configuration	20
2.5 South Bridge	22
2.6 ACPI Settings	23
2.7 SATA Configuration.....	25
2.8 SAS Configuration	26
2.9 USB Configuration	28
2.10 PCI Subsystem Settings	30
2.10.1 Onboard Devices	32
2.10.2 PCI Express Ports Configuration.....	34
2.10.3 PCI Express Settings	35
2.10.4 PCI Express Gen 2 Settings	37

2.11	H/W Monitor	40
2.12	Super IO Configuration	41
2.12.1	Serial Port 0 Configuration	41
2.12.2	Serial Port Console Redirection	43
2.13	ME Subsystem	46
2.14	Thermal Configuration	48
2.15	Network Stack	50
2.16	Intel (R) 82574L Gigabit Network Connection	52
2.16.1	NIC Configuration	52
3.	Boot Menu.....	53
4.	Security Menu	56
5.	Runtime Error Logging.....	57
5.1	Runtime Error Logging.....	57
5.2	System Event Log.....	59
6.	Save & Exit.....	61

This manual contains information about the system BIOS and discusses how to configure the system by changing the settings of the BIOS parameters.

BIOS Setup

Entering BIOS Setup

Press <F2> or during the Power-On-Self-Test (POST) to enter the BIOS Setup menu, otherwise, POST will continue with its test routines.

Note that the BIOS Setup options may vary depending on your hardware configuration.

BIOS Hotkeys

The following hotkeys work during POST:

Key	Function
Delete key or F2	Enter BIOS setup utility
Esc	Exit
F1	General Help
F8	Load previous values
F9	Load Optimized Defaults
F10	Save & Exit

Menu Bar

There are six tabs on the BIOS Menu bar on the top of the screen:

- **Main:** Shows the BIOS version, Processor and System Memory information. You can set the System Time and System Date here.
- **Advanced:** Sets the Advanced settings for CPU, Memory, SATA, USB, and Super IO.

- **Boot:** Sets the Boot Settings Configuration, Boot Device Priority and Hard Disk Drive.
- **Security:** Sets the system security features.
- **Runtime Error Logging:** Sets the Runtime Error Logging features.
- **Save & Exit:** Exit BIOS Setup Menu or save modified settings.

Use < Enter >, <Tab > or < Shift-Tab > key or to select a field on the menu bar.

Navigation Keys

Use the following navigation keys to set the BIOS parameters:

Navigation Key(s)	Function
><	Select screen
^v	Select item
Enter	Select
+/-	Change option
F1	General Help
F8	Previous values
F9	Optimized defaults
F10	Save and Exit
ESC	Exit

Notes: Setup options may vary depending on your hardware configuration.

Grayed-out fields are not user-configurable.

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

1. Main Menu

After entering the BIOS Setup Utility, you will see the Main menu screen. The Main menu displays the BIOS, processor, memory and chipset information. You can also choose the system language, set the system date and time.

```

Apdio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Boot Security Runtime Error Logging Save & Exit
-----
Intel(R) Xeon(R) CPU E5-2609 0 @ 2.40GHz      ^ Set the Time. Use Tab
CPU Signature                               206d7      + to switch between Time
CPU Speed                                   2400 MHz  + elements.
CPU/Core/Thread count                       1/4/4     +
Microcode Patch                             710      +
-----
Memory Information                          +
Total Memory                               8192 MB (DDR3) +
Current Memory Speed                       1066 MHz  *
-----
Chipset Information                          *
Name                                        Patsburg  *
Stepping                                   06 (C1 Stepping) *
-----
System Language                             [English] *
System Date                                 [Wed 07/02/2014] *
System Time                                 [02:37:09] *
-----
Access Level                                Administrator *
-----
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.

```

```

Apdio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Boot Security Runtime Error Logging Save & Exit
-----
BIOS Information                            ^
BIOS Version                               EP_P10R.06M x64 *
BIOS Vendor                                American Megatrends *
Core Version                               4.6.5.4 *
Compliance                                  UEFI 2.3.1; PI 1.2 *
Build Date and Time                        05/16/2014 14:02:20 *
Romley RC Revision                         2.0.0.2 *
VR Version                                  ffoff *
-----
Processor Information                        *
Intel(R) Xeon(R) CPU E5-2609 0 @ 2.40GHz  *
CPU Signature                               206d7      *
CPU Speed                                   2400 MHz  +
CPU/Core/Thread count                       1/4/4     +
Microcode Patch                             710      +
-----
Memory Information                          +
Total Memory                               8192 MB (DDR3) +
Current Memory Speed                       1066 MHz  +
-----
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.

```

2. Advanced Menu

The Advanced menu allows you to set up CPU Configuration, Memory Configuration, IOH & QPI Configuration, South Bridge, ACPI Settings, SATA Configuration, SAS Configuration, USB Configuration, PCI Subsystem Settings, H/W Monitor, Super IO Configuration, ME Subsystem, Thermal Configuration and Network Stack.

```
Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Boot Security Runtime Error Logging Save & Exit
-----
Show Hidden Options [Enabled]
> CPU Configuration
> Memory Configuration
> IOH & QPI Configuration
> South Bridge
> ACPI Settings
> SATA Configuration
> SAS Configuration
> USB Configuration
> PCI Subsystem Settings
> H/W Monitor
> Super IO Configuration
> ME Subsystem
> Thermal Configuration
> Network Stack

> Intel(R) 82574L Gigabit Network Connection

-----
Enable this option would show hidden options, disable this option would hide hidden options
-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit
-----
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.
```

Warning: Setting the wrong values in the Advanced menu may cause the system to malfunction.

Select a submenu item and then press **Enter** to access the related submenu screen.

2.1 Show Hidden Options

Enable or disable the hidden BIOS options. It is not recommended to enable this option as some items may be at risk when this option is enabled. Default is **Disabled**.

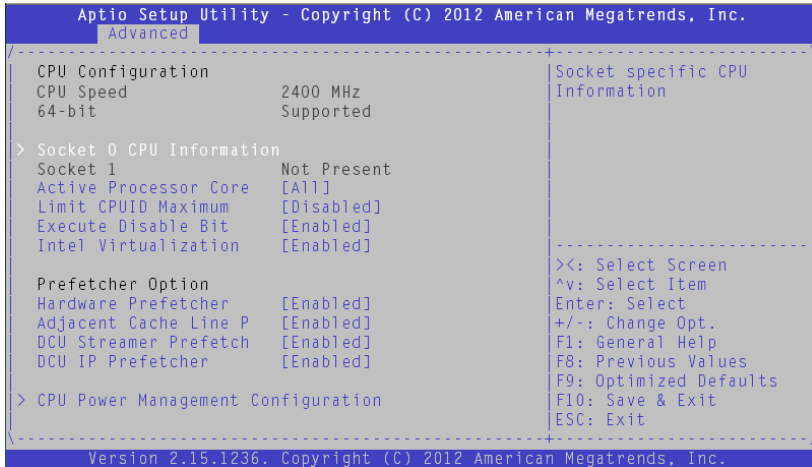
2.2 CPU Configuration

CPU Configuration displays the CPU information and allows you to set the CPU configuration parameters.

```
Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Boot Security Runtime Error Logging Save & Exit
-----
Show Hidden Options [Enabled]
> CPU Configuration
> Memory Configuration
> IOH & QPI Configuration
> South Bridge
> ACPI Settings
> SATA Configuration
> SAS Configuration
> USB Configuration
> PCI Subsystem Settings
> H/W Monitor
> Super IO Configuration
> ME Subsystem
> Thermal Configuration
> Network Stack

> Intel(R) 82574L Gigabit Network Connection ...

CPU Configuration Parameters
-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit
-----
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.
```



Parameter	Description	Option
CPU Speed	Detects the CPU speed	
64-bit	Detects whether or not 64-bit is supported.	
Socket 0/1 CPU Information	Shows the socket specific CPU Information	
Active Processor Core	Use this item to select the number of cores to enable in each processor package.	1 2
Limit CPUID Maximum	Disabled for Windows XP.	Enabled Disabled
Execute Disable Bit	XD can prevent certain classes of malicious buffer overflow attacks when combined with a supporting OS (Windows Server 2003 SP1, Windows XP SP2, SuSE Linux 9.2, RedHat Enterprise 3 Update 3.)	Enabled Disabled
Intel Virtualization	When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.	Enabled Disabled

Prefetcher Option		
Hardware Prefetcher	Enable or disable the Mid Level Cache (L2) prefetching of adjacent cache lines.	Enabled Disabled
Adjacent Cache Line P	Enable or disable the Mid Level Cache (L2) prefetching of adjacent cache lines	Enabled Disabled
DCU Streamer Prefetch	Enable or disable prefetch of next L1 Data line based upon multiple loads in same cache	Enabled Disabled
DCU IP Prefetcher	Enables or disables prefetch of next L1 line based upon sequential load history.	Enabled Disabled

2.2.1 CPU Power Management Configuration

Use this feature to enable or disable the power management features.



Parameter	Description	Option
Max Freq Ratio	Non Turbo Range: 12-24. This sets the maximum ratio. If this ratio is out of range, the nearest ratio in range will be used. The ranges change with different CPUs.	255

Power Technology	Enable the power management features.	Custom Energy Efficient Disable
EIST	Enable or disable Intel SpeedStep.	Enabled Disabled
Energy Perf Access	Set POWER_CTRL[18].	OS Control BIOS Control
P-STATE Coordination	Change the P-STATE Coordination type.	HW_ALL, SW_ALL, SW_ANY
CPU C3 Report	Enable or disable CPU core C3 report to OS	Enabled, Disabled
CPU C6 Report	Enable or disable CPU core C6 report to OS	Enabled, Disabled
Package C State Limit	Set the Package C State Limit.	C6 with retention, C6 without retention, No Limit
Energy Performance	Optimize between performance and power savings. Windows 2008 and later OSes override this value according to its power plan.	Performance, Balanced Performance, Balanced Energy, Energy Efficient
C-State Hint	Set the C-State Hint.	MWAIT IO
Factory long duration	Detect Factory long duration in watts.	
Long duration power 1	Long duration power limit in watts.	0

Factory long duration	Detect Factory long duration in watts.	
Long duration maintain	Time window which the long duration power is maintained.	0
PL1 Clamp Bit	Enable or disable PL1 Clamp Bit.	Enabled Disabled
Short duration power	Short duration power limit in watts.	0
Short duration maintain	Time window which the short duration power is maintained. Minimum = 3 ms, maximum = 10ms.	0
PL2 Clamp Bit	Enable or disable PL2 Clamp Bit.	Enabled Disabled

2.3 Memory Configuration

Memory Configuration shows the system memory configuration such as total memory, current memory mode and speed, MRC Revision, Mirroring and Sparring support. This menu also allows you to set other memory functions.

```

Apdio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Boot Security Runtime Error Logging Save & Exit
-----
Show Hidden Options      [Enabled]
> CPU Configuration
> Memory Configuration
> IOH & QPI Configuration
> South Bridge
> ACPI Settings
> SATA Configuration
> SAS Configuration
> USB Configuration
> PCI Subsystem Settings
> H/W Monitor
> Super IO Configuration
> ME Subsystem
> Thermal Configuration
> Network Stack
> Intel(R) 82574L Gigabit Network Connection ...

Memory Configuration
-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit
-----
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```

```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
  Advanced
-----
Memory Configuration
Total Memory           8192 MB (DDR3)
Current Memory Mode    Independent
Current Memory Speed   1066 MHz
MRC Revision           2.0.0.2
Mirroring              Not Possible
Sparing               Not Possible
Memory Mode           [Independent]
DRAM RAPL BWLIMIT     [1]
Perfmon and DFX devic [UNHIDE]
DRAM RAPL MODE        [DRAM RAPL MODE1]
Page Policy           [Adaptive]
Idle Page Timer       8
Window Size          64
Mem Power Saving      [Max Performance]
Hardware Memory Test  [Enabled]
Software Memory Test  [Enabled]
A7 Mode Enable       [Auto]
^ Select the mode for
* memory initialization.
*
*
*
*
*
*
*
*
+ ><: Select Screen
+ ^v: Select Item
+ Enter: Select
+ +/-: Change Opt.
+ F1: General Help
+ F8: Previous Values
+ F9: Optimized Defaults
+ F10: Save & Exit
v ESC: Exit
-----
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```

Parameter	Description	Option
Memory Mode	Select the mode for memory initialization.	Independent Mirroring Lock Step Sparing
DRAM RAPL BWLIMIT	DRAM RAPL BWLIMIT: Intel recommended values.	1/0/8/16
Perfmon and DFX device	Hide or unhide Perfmon and DFX devices	UNHIDE HIDE
DRAM RAPL Mode	Select the DRAM RAPL Mode.	DRAM RAPL MODE1, Disabled, DRAM RAPL MODE0
Page Policy	Select page policy.	Adaptive, Closed, Static,
Idle Page Timer	Set the idle page reset timer * 4.	8 0 to 63

Window Size	This is the number of requests that we track before making a decision to adapt the RV.	64
Mem Power Saving	Select the memory power saving mode. Options are Default (slow), Max Performance (Disable) and Power Save (MEM_PWR_SAV_USR/CKE_PPDS)	Max Performance , Default Power Save
Hardware Memory Test	Disable this option to let the MRC bypass the hardware memory test.	Enabled Disabled
Software Memory Test	Enable or disable the software memory test feature in MRC.	Enabled Disabled
A7 Mode Enable	Enable or disable A7 mode feature.	Auto Enabled, Disabled
DDR Speed	Force DDR speed.	Auto / Force DDR3 800/ Force DDR3 1066/ Force DDR3 1333/ Force DDR3 1600/ Force DDR3 1866
Channel Interleaving	Select different Channel Interleaving settings.	Auto /1 Way/ 2 Way/3 Way /4Way
Rank Interleaving	Select different rank Interleaving settings.	Auto /1 Way/ 2 Way/3 Way/ 4 Way/8 Way
Patrol Scrub	Enable or disable the Patrol Scrub.	Enabled Disabled
Demand Scrub	Enable or disable the Demand Scrubbing feature,	Disabled Enabled
Data Scrambling	Enable or disable data scrambling.	Disabled Enabled

Device Tagging	Enable or disable device tagging.	Disabled Enabled
Rank Margin	Enable or disable rank margin.	Disabled Enabled
Enforce POR	Select the POR table.	Winterfell POR/ Intel POR/ Disabled
MDLL Shutdown		Enabled Disabled
Thermal Throttling	Select Closed Loop Thermal Throttling (CLTT), Open Loop Thermal Throttling (OLTT) or Disabled	CLTT Disabled OLTT
Altitude	The system's altitude above sea level in meters.	300 M , Auto, 900 M, 1500 M 3000 M
Serial Message Debug Level		Minimum , Maximum, Trace, Memory Training
DIMM Voltage Select	Select the DIMM voltage. Auto is MRC while Custom is set VDDQ.	Auto Custom
DIMM Information	Display DIMM presence and size information.	

2.4 IOH & QPI Configuration

```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main  Advanced  Boot  Security  Runtime Error Logging  Save & Exit
-----
Show Hidden Options      [Enabled]
> CPU Configuration
> Memory Configuration
> IOH & QPI Configuration
> South Bridge
> ACPI Settings
> SATA Configuration
> SAS Configuration
> USB Configuration
> PCI Subsystem Settings
> H/W Monitor
> Super IO Configuration
> ME Subsystem
> Thermal Configuration
> Network Stack

> Intel(R) 82574L Gigabit Network Connection ...

IOH & QPI Configuration
-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit
-----
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```

2.4.1 Intel® VT for Directed I/O Configuration

This submenu allows you to enable or disable the Intel® Virtualization Technology for Directed I/O. Default is **Disabled**.

```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Advanced
-----
> Intel(R) VT for Directed I/O Configuration
> IOH Configuration
> QPI Configuration

Intel(R) VT for Directed I/O Configuration
-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit
-----
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.

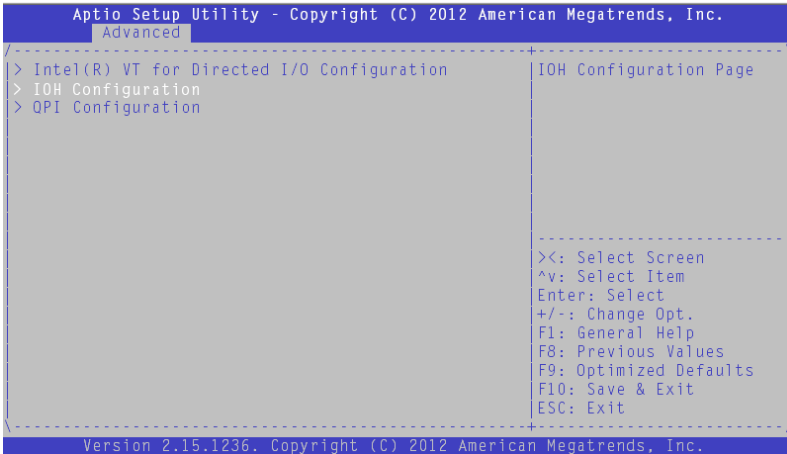
```

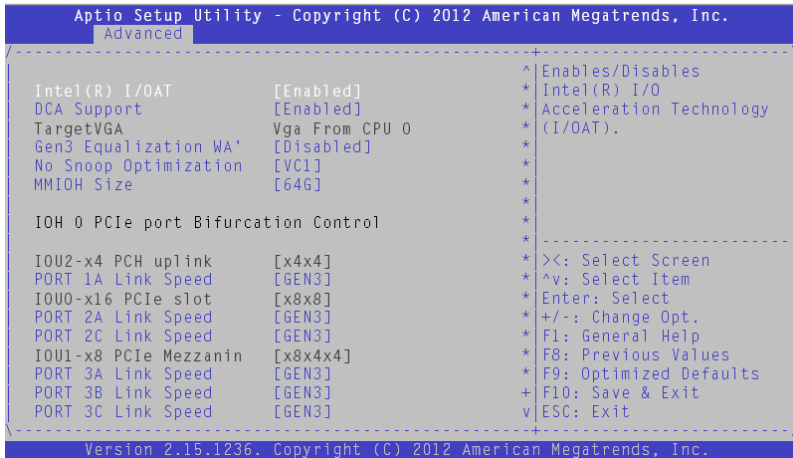
If enabled, you can enable or disable the Coherency Support and ATS Support.

Parameter	Description	Option
Intel® VT-d	Enable or disable Intel® Virtualization Technology for directed I/O.	Disabled Enabled
Coherence Support	Enable or disable VT-d Engine Coherency support.	Enabled Disabled
ATS Support	Enable or disable VT-d Engine Address Translation Services (ATS) support.	Enabled Disabled

2.4.2 IOH Configuration

This submenu allows you to set the IOH Configuration settings.



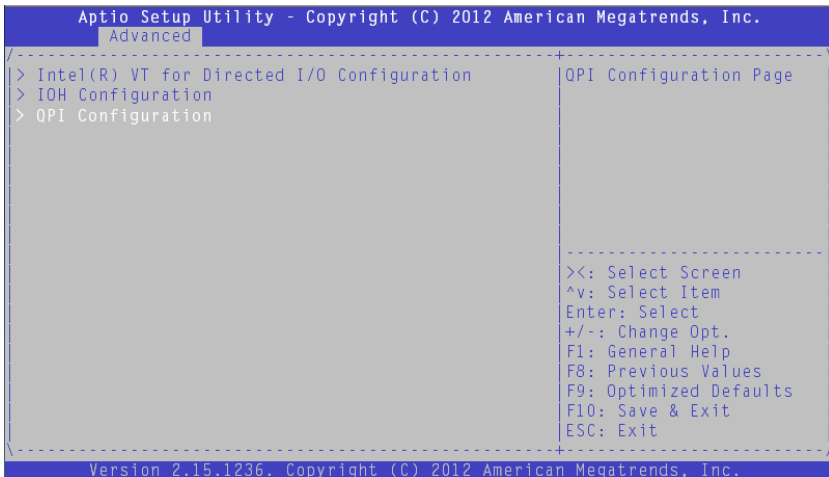


Parameter	Description	Option
Intel® I/O AT	Enable or disable Intel® I/O Acceleration Technology (I/OAT).	Enabled Disabled
DCA Support	Enable or disable the direct cache access support.	Enabled Disabled
TargetVGA	Search for VGA.	VGA From CPU 0
Gen3 Equalization WA*	Support for Gen3 Equalization Workarounds mentioned in SNB_BSU version 0.83,	Disabled Enabled
No Snoop Optimization	Enable the “No Snoop in PCI Express Settings” before you can set this option. It is recommended to use the default value VC1 .	VC1 VC0/VCP/VC1
MMIOH Size	Select number of 1GB contiguous regions to be assigned for MMIOH space per CPU.	64G , 1G, 2G, 4G, 8G, 16G, 32G, 128G
PORT 1A Link Speed	Select the Target Link Speed.	GEN1 , GEN2 GEN3

IOU0-x16 PCIe slot	The setting determines the visible function as follows: x4x4x4x4 – Fun 0/1/2/3; x4x4x8 – Fun 0/2/3; x8x4x4 - Fun 0/1/2; x8x8 – Fun 0/2; x16 – Fun 0	x8x8 , x4x4x4x4, x4x4x8, x8x4x4, x16
PORT 2A/2C3A/3B/3C Link Speed	Select the Target Link Speed.	GEN3 .,GEN1, GEN2

2.4.3 QPI Configuration

QPI Configuration shows and allows you to set the QPI parameters.



```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
  Advanced

Current QPI Link Spee  Slow
Current QPI Link Freq 66 MT/s
QPI Link Disable      [Port0 Enable / Port...]
Isoc                   [Disabled]
MesegEn                [Disabled]
QPI Link Speed Mode    [Fast]
QPI Link Frequency     [Auto]
RTID 2S                [Optimum]
Snoop Mode enable     [Auto]

Disabling both ports
results in a hang.

><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit

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```

Parameter	Description	Option
QPI Link Disable	Enable or disable ports. Disabling both ports will cause the system to hang.	Port0 Enable/Port1 Enable Auto
Isoc	Enable or disable Isoc.	Disabled Enabled
MesegEn	Enable/Disable Meseg	Disabled Enabled
QPI Link Speed Mode	Fast is Normal mode.	Fast
QPI Link Frequency	Select the QPI Link Frequency.	Auto , 6.4 GT/s, 7.2 GT/s, 8.0 GT/s
RTID 2S	Normal is Optimum. Alternate can boost performance in some 2S environments.	Optimum , Alternate
Snoop Mode Enable	Select appropriate snoop mode. Auto will let the BIOS decide based on system configuration. HS/w DIR&OSB will enable OSB.	Auto HS/w DIR&OSB

2.5 South Bridge

South Bridge shows and allows you to set the South Bridge parameters.

```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main  Advanced  Boot  Security  Runtime Error Logging  Save & Exit
-----
Show Hidden Options      [Enabled]
> CPU Configuration
> Memory Configuration
> IOH & OPI Configuration
> South Bridge
> ACPI Settings
> SATA Configuration
> SAS Configuration
> USB Configuration
> PCI Subsystem Settings
> H/W Monitor
> Super IO Configuration
> ME Subsystem
> Thermal Configuration
> Network Stack
> Intel(R) 82574L Gigabit Network Connection ...

South Bridge Parameters
-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit

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```

```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Advanced
-----
PCH Information
Name          Patsburg
Stepping      06 (C1 Stepping)

SB Chipset Configuration
PCH Compatibility RID [Disabled]
Spread Spectrum      [Disabled]

Support for PCH
Compatibility Revision
ID (CRID) Functionality.
-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit

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```

Parameter	Description	Option
PCH Compatibility RID	Support for PCH Compatibility Revision ID (CRID) Functionality	Disabled Enabled
Spread Spectrum	Enable or disable spread spectrum.	Disabled Enabled

2.6 ACPI Settings

This submenu allows you to set the system ACPI parameters.

```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main  Advanced  Boot  Security  Runtime Error Logging  Save & Exit
-----
> Show Hidden Options      [Enabled]      System ACPI Parameters.
> CPU Configuration
> Memory Configuration
> IOH & QPI Configuration
> South Bridge
> ACPI Settings
> SATA Configuration
> SAS Configuration
> USB Configuration
> PCI Subsystem Settings
> H/W Monitor
> Super IO Configuration
> ME Subsystem
> Thermal Configuration
> Network Stack

> Intel(R) 82574L Gigabit Network Connection ...

-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit

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```

```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Advanced
-----
ACPI Settings
Enable ACPI Auto Conf  [Disabled]
ACPI Sleep State      [Suspend Disabled]
Lock Legacy Resources  [Disabled]

High Precision Event Timer Configuration
High Precision Timer   [Enabled]

Runtime Memory Hole Setting
Runtime Memory Hole S  [Enabled]

-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit

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```

Parameter	Description	Option
Enable ACPI Auto Conf	Enable or disable BIOS ACPI Auto Configuration.	Disabled Enabled
ACPI Sleep State	Select the ACPI sleep state the system will enter into when you press the Suspend button.	Suspend Disabled, S1 only(CPU Stop Clock), S3 only(Suspend to RAM), Both S1 and S3 available for OS to choose from
Lock Legacy Resources	Enable or disable lock for Legacy Resources.	Disabled Enabled
High Precision Timer	Enable or disable the High Precision Event Timer.	Enabled Disabled
Runtime Memory Hole Setting	Enable or disable the memory hole setting.	Enabled Disabled

2.7 SATA Configuration

This submenu allows you to configure the SATA devices.

```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main  Advanced  Boot  Security  Runtime Error Logging  Save & Exit

-----
Show Hidden Options      [Enabled]
> CPU Configuration
> Memory Configuration
> IOH & QPI Configuration
> South Bridge
> ACPI Settings
> SATA Configuration
> SAS Configuration
> USB Configuration
> PCI Subsystem Settings
> H/W Monitor
> Super IO Configuration
> ME Subsystem
> Thermal Configuration
> Network Stack

> Intel(R) 82574L Gigabit Network Connection ...

-----
SATA Devices
Configuration.

-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit

-----
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```

```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Advanced

-----
SATA Configuration

Onboard SATA RAID Opr  [Disabled]

SATA Port0      Not Present
SATA Port1      Not Present
SATA Port2      Not Present
SATA Port3      Not Present
SATA Port4      Not Present
SATA Port5      Not Present

SATA Mode       [AHCI Mode]
ALPM            [Disabled]

-----
Controls whether to
enable the onboard SATA
Option ROM or EFI
Driver.

-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit

-----
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```

Parameter	Description	Option
Onboard SATA RAID Opr	Enable onboard SATA RAID option ROM or EFI Driver.	Disabled Enabled
SATA Mode	Select the SATA mode.	AHCI Mode, IDE Mode, RAID Mode
ALPM	ALPM support.	Disabled Enabled

2.8 SAS Configuration

This submenu allows you to configure the SAS devices.

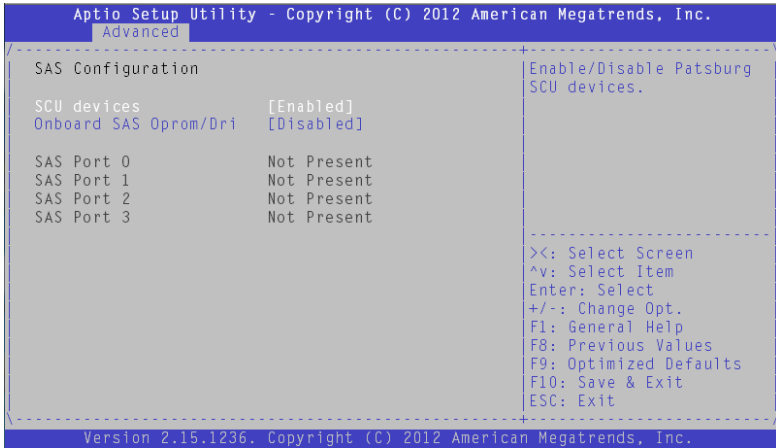
```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main | Advanced | Boot | Security | Runtime Error Logging | Save & Exit
-----
Show Hidden Options      [Enabled]
> CPU Configuration
> Memory Configuration
> IOH & QPI Configuration
> South Bridge
> ACPI Settings
> SATA Configuration
> SAS Configuration
> USB Configuration
> PCI Subsystem Settings
> H/W Monitor
> Super IO Configuration
> ME Subsystem
> Thermal Configuration
> Network Stack

> Intel(R) 82574L Gigabit Network Connection ...

SAS Devices Configuration.
-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit
-----
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.

```



Parameter	Description	Option
SCU devices	Enable or disable Patsburg SCU devices.	Enabled Disabled
Onboard SAS Oprom/Dri	Controls whether to enable the onboard SAS Option ROM or EFI Driver.	Disabled Enabled

2.9 USB Configuration

This submenu allows you to configure the USB parameters.

```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
  Advanced
-----
USB Configuration                                USB Ports Configuration
USB Module Version          8.10.27
USB Devices:
  1 Keyboard, 2 Hubs
> USB Ports Configuration
  Legacy USB Support          [Enabled]
  EHCI Hand-off              [Disabled]
  USB Mass Storage Driv     [Enabled]
  Port 60/64 Emulation       [Enabled]
  USB hardware delays a
  USB transfer time-out     [20 sec]
  Device reset time-out     [20 sec]
  Device power-up delay     [Auto]
-----
  ><: Select Screen
  ^v: Select Item
  Enter: Select
  +/-: Change Opt.
  F1: General Help
  F8: Previous Values
  F9: Optimized Defaults
  F10: Save & Exit
  ESC: Exit
-----
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.
  
```

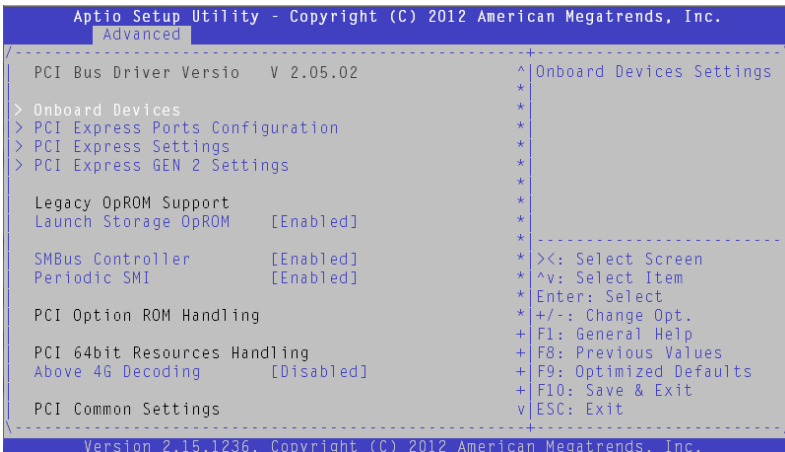
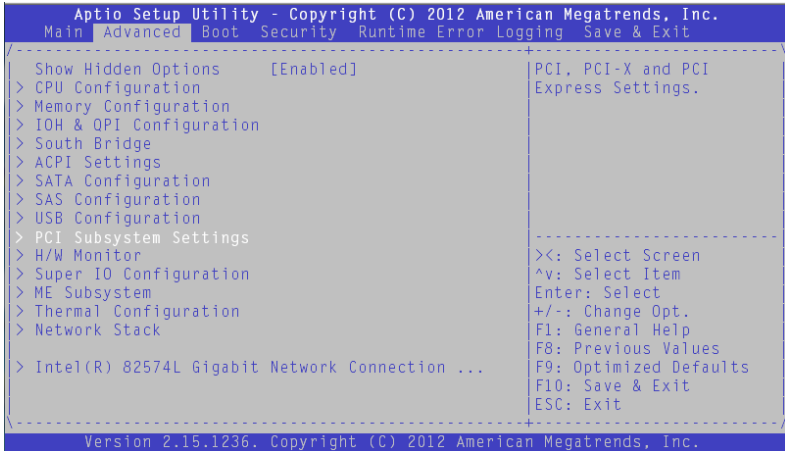
```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
  Advanced
-----
USB Configuration                                Enables Legacy USB
USB Module Version          8.10.27              support. AUTO option
USB Devices:                disables legacy support
  1 Keyboard, 2 Hubs         if no USB devices are
                             connected. DISABLE
                             option will keep USB
                             devices available only
                             for EFI applications.
> USB Ports Configuration
  Legacy USB Support          [Enabled]
  EHCI Hand-off              [Disabled]
  USB Mass Storage Driv     [Enabled]
  Port 60/64 Emulation       [Enabled]
  USB hardware delays a
  USB transfer time-out     [20 sec]
  Device reset time-out     [20 sec]
  Device power-up delay     [Auto]
-----
  ><: Select Screen
  ^v: Select Item
  Enter: Select
  +/-: Change Opt.
  F1: General Help
  F8: Previous Values
  F9: Optimized Defaults
  F10: Save & Exit
  ESC: Exit
-----
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.
  
```

Parameter	Description	Option
Legacy USB Support	Enable Legacy USB support. Auto option disables legacy support if no USB devices are connected. Disabled option will keep USB devices available only for EFI applications.	Enabled Disabled Auto
EHCI Hand-off	This is a workaround for OSES without EHCI hand-off support. The EHCI ownership change should be claimed by EHCI driver.	Disabled Enabled
USB Mass Storage Driver	Enable or disable USB mass storage driver support.	Enabled Disabled
Port 60/64 Emulation	Enable I/O port 60h/64h emulation support. This option should be enabled for the complete USB keyboard legacy support for non-USB aware OSES.	Enabled Disabled
USB transfer time-out	The time-out value for Control, Bulk and Interrupt transfers.	20 sec , 1 sec, 5 sec, 10 sec,
Device reset time-out	USB mass storage device Start Unit command time-out.	20 sec , 10 sec, 30 sec, 40 sec
Device power-up delay	Maximum time the device will take before it properly reports itself to the Host Controller. Auto option uses the default value. For a Root port, it is 100 ms. For a Hub port, the delay is taken from the Hub descriptor.	Auto , Manual

2.10 PCI Subsystem Settings

This submenu allows you to configure the PCI, PCI-X and PCI Express settings.



Parameter	Description	Option
Launch Storage OpROM	Enable or disable the boot option for legacy mass storage devices with option ROM.	Enabled Disabled
SMBus Controller	Enable or disable SMBus controller.	Enabled Disabled
Periodic SMI	Enable or disable Periodic SMI.	Enabled Disabled
Above 4G Decoding	Enable or disable 64-bit capable devices to be decoded in above 4G address space (only if system supports 64-bit PCI decoding)	Disabled Enabled
PCI Latency Timer	This is the value to be programmed into the PCI Latency Timer register.	32 PCI Bus Clocks
VGA Palette Snoop	Enable or disable VGA Palette registers snooping.	Disabled Enabled
PERR# Generation	Enable or disable PCI device to generate PERR#	Disabled Enabled
SERR# Generation	Enable or disable PCI device to generate SERR#	Disabled Enabled

2.10.1 Onboard Devices

```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
  Advanced
-----
PCI Bus Driver Versio  V 2.05.02                ^ Onboard Devices Settings
*
> Onboard Devices                               *
> PCI Express Ports Configuration                *
> PCI Express Settings                          *
> PCI Express GEN 2 Settings                    *
*
Legacy OpROM Support                               *
Launch Storage OpROM [Enabled]                  *
*
SMBus Controller [Enabled]                       *
Periodic SMI [Enabled]                          *
*
PCI Option ROM Handling                           *
*
PCI 64bit Resources Handling                       *
Above 4G Decoding [Disabled]                    *
*
PCI Common Settings                              *
-----
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.
  ><: Select Screen
  ^v: Select Item
  Enter: Select
  +/-: Change Opt.
  + F1: General Help
  + F8: Previous Values
  + F9: Optimized Defaults
  + F10: Save & Exit
  v ESC: Exit

```

```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
  Advanced
-----
> NIC Information                               NIC Information
Reset on WoL [Disabled]
Launch PXE OpROM [Enabled]
Hartwell Port [Enabled]
*
x8 PCIe slot (2a) [Auto]
x8 PCIe slot (2c) [Auto]
x4 PCIe ext#1 (3a) [Enabled]
x4 PCIe ext#2 (3b) [Enabled]
x8 PCIe Mezz (3c) [Auto]
*
-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit
-----
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.

```


Parameter	Description	Option
Reset on WOL	System resets when it receives a Wakeup event	Disabled Enabled
Launch PXE OpROM	Enable or disable Boot Option for Legacy network devices	Enabled Disabled
Hartwell Port	Hartwell (82574L) Port Setting	Enabled Disabled
X8 PCIe Slot (2a)	Control PCIe slot port 2a/IUO0.	Auto Enabled Disabled
x4 PCIe ext#1 (3a)	Control x4 PCIe external connector #1 (miniSAS) (port 3a/IOU1).	Enabled Auto Disabled
x4 PCIe ext#2 (3b)	Control x4 PCIe external connector #2 (miniSAS) (port 3b/IOU1).	Enabled Auto Disabled
X8 PCIe Mezz (3c)	Control x8 PCIe mezzanine card (port 3c/IOU1)	Auto Enabled Disabled

2.10.2 PCI Express Ports Configuration

```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
  Advanced
-----
PCI Bus Driver Versio  V 2.05.02          ^ PCI Express Ports
* Configuration
> Onboard Devices                       *
> PCI Express Ports Configuration       *
> PCI Express Settings                   *
> PCI Express GEN 2 Settings             *
Legacy OpROM Support                       *
Launch Storage OpROM  [Enabled]           *
-----
SMBus Controller      [Enabled]           *
Periodic SMI          [Enabled]           *
-----
PCI Option ROM Handling                     *
-----
PCI 64bit Resources Handling                 *
Above 4G Decoding    [Disabled]            *
-----
PCI Common Settings                         *
-----
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.

```

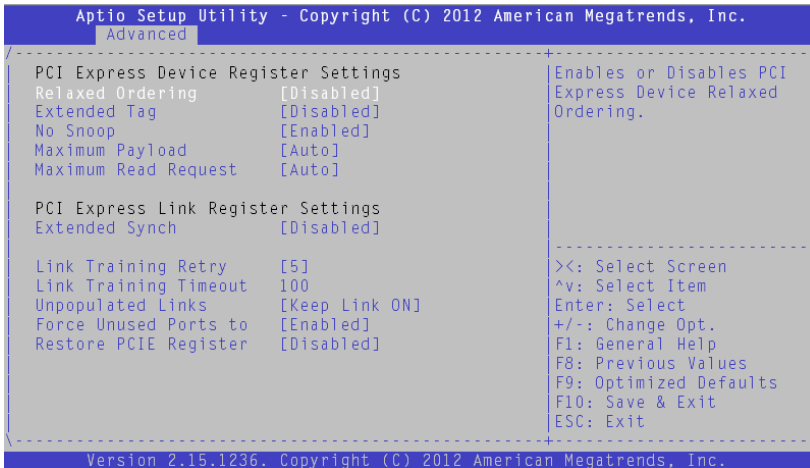
```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
  Advanced
-----
PCI Express Ports Configuration           Enabled/Disabled PCIe
Sub Decode Port. (This option is available
when Subtractive Decode Agent Enable
(PCHTrap9[14] = '1b')
-----
PCIe Sub Decode      [Disabled]
DMI Vc1 Control     [Enabled]
DMI Vcp Control     [Enabled]
DMI Vcm Control     [Enabled]
-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit
-----
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.

```

Parameter	Description	Option
PCIe Sub Recode	Enable/disable PICe Sub Decode Port.	Disabled Enabled
DMI Vc1 Control	Enable/disable DMI Vc1.	Enabled Disabled
DMI Vcp Control	Enable/disable DMI Vcp.	Enabled Disabled
DMI Vcm Control	Enable/disable DMI Vcm.	Enabled Disabled

2.10.3 PCI Express Settings



Parameter	Description	Option
Relaxed Ordering	Enable/disable PIC Express Device Relaxed Ordering.	Disabled Enabled
Extended Tag	If Enabled , allows Device to use 8-bit Tag field as a requester.	Disabled Enabled
No Snoop	Enable/disable PIC Express Device No Snoop option.	Enabled Disabled

Maximum Payload	Set Maximum Payload of PCI Express Device or allow system BIOS to select the value.	Auto, 128 Bytes, 256 Bytes, 512 Bytes, 1024 Bytes, 2048 Bytes, 4096 Bytes
Maximum Read Request	Set Maximum Read Request Size of PCI Express Device or allow system BIOS to select the value.	Auto, 128 Bytes, 256 Bytes, 512 Bytes, 1024 Bytes, 2048 Bytes, 4096 Bytes
Extended Synch	If Enabled, allows generation of Extended Synchronization patterns.	Disabled Enabled
Link Training Retry	Defines the number of retry attempts the software will take to retrain the link if previous training attempt was unsuccessful.	5, Disabled 2, 3
Link Training Timeout	Defines number of microseconds the software will wait before polling "Link Training" bit in Link Status register. Value range is 10 to 10000 uS.	100
Unpopulated Links		Keep Link ON,
Force Unused Ports to		Enabled Disabled
Restore PCIe Register	On Non-PCI Express aware OS's (Pre Windows Vista), some devices may not be correctly reinitialized after S3.	Disabled Enabled

2.10.4 PCI Express Gen 2 Settings

```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
  Advanced
-----
PCI Bus Driver Versio  V 2.05.02          ^ Change PCI Express GEN
* Devices Settings.
*
> Onboard Devices
> PCI Express Ports Configuration
> PCI Express Settings
> PCI Express GEN 2 Settings
*
Legacy OpROM Support
Launch Storage OpROM  [Enabled]
*
-----
SMBus Controller      [Enabled]
Periodic SMI          [Enabled]
*
PCI Option ROM Handling
*
PCI 64bit Resources Handling
Above 4G Decoding    [Disabled]
*
PCI Common Settings
*
-----
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.

```

```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
  Advanced
-----
PCI Express GEN2 Device Register Settings
Completion Timeout    [Default]
ARI Forwarding        [Disabled]
AtomicOp Requester   [Disabled]
Block AtomicOp Egress [Disabled]
IDO Request Enable    [Disabled]
IDO Completion Enable [Disabled]
LTR Mechanism Enable  [Disabled]
End-End TLP Prefix B1 [Disabled]
*
-----
PCI Express GEN2 Link Register Settings
Target Link Speed     [Auto]
Clock Power Managemen [Disabled]
Compliance SOS        [Disabled]
H/W Autonomous Width  [Enabled]
H/W Autonomous Speed  [Enabled]
*
-----
In device Functions that support Completion Timeout programmability, allows system software to modify the Completion Timeout value. 'Default' 50us to 50ms. If 'Shorter' is
*
-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit
*
-----
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.

```

Parameter	Description	Option
Completion Timeout	In device with functions that support completion timeout programmability, this parameter allows system software to modify the completion timeout value. Default is 50us to 50ms.	Default Shorter, Longer, Disabled
ARI Forwarding		Disabled Enabled
AtomicOp Requester	If supported by hardware and set to "Enabled", this function initiates AtomicOp Requests only if BUS Master Enable bit is in the Command Register set.	Disabled Enabled
Block AtomicOp Egress	If supported by hardware and set to "Enabled", outbound AtomicOp Requests via Egress Ports will be blocked.	Disabled Enabled
IDO Request Enable	If supported by hardware and set to "Enabled", this permits setting the number if ID-Based Ordering (IDO) bit (Attribute[2]) requests to be initiated.	Disabled Enabled
IDO Completion Enable	If supported by hardware and set to "Enabled", this permits setting the number if ID-Based Ordering (IDO) bit (Attribute[2]) requests to be initiated.	Disabled Enabled
LTR Mechanism Enable	If supported by hardware and set to "Enabled", this enables the Latency Tolerance Reporting (LTR) Mechanism.	Disabled Enabled
End-End TLP Prefix B1	If supported by hardware and set to "Enabled", this function will block forwarding of TLPs containing End-End TLP Prefixes.	Disabled Enabled
Clock Power Management	If supported by hardware and set to "Enabled", the device is permitted to use CLKREQ# signal for power management of Link clock.	Disabled Enabled

Compliance SOS	If supported by hardware and set to “Enabled”, this will force LTSSM to send SKP Ordered Sets between sequences when sending Compliance Pattern or Modified Compliance pattern.	Disabled Enabled
H/W Autonomous Width	If supported by hardware and set to “Disabled”, this will disable the hardware’s ability to change link width except width size reduction for the purpose of correcting unstable link operation.	Enabled Disabled
H/W Autonomous Speed	If supported by hardware and set to “Disabled”, this will disable the hardware’s ability to change link speed except speed rate reduction for the purpose of correcting unstable link operation.	Enabled Disabled

2.11 H/W Monitor

This function allows you to monitor the hardware status.

```

Apdio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main  Advanced  Boot  Security  Runtime Error Logging  Save & Exit
-----
Show Hidden Options      [Enabled]      Monitor hardware status
> CPU Configuration
> Memory Configuration
> IOH & QPI Configuration
> South Bridge
> ACPI Settings
> SATA Configuration
> SAS Configuration
> USB Configuration
> PCI Subsystem Settings
> H/W Monitor
> Super IO Configuration
> ME Subsystem
> Thermal Configuration
> Network Stack

> Intel(R) 82574L Gigabit Network Connect

-----
<<: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit

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```

```

Apdio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Advanced
-----
Health Status
-----
Battery Vref      [2.50V]
CPU0VCORE         : +1.052 V
CPU1VCORE         : +0.204 V
PV_VDDQ_AB       : +1.354 V
PV_VDDQ_CD       : +1.354 V
PV_VDDQ_EF       : +0.10
PV_VDDQ_GH       : N/A
P12V              : +13.244 V
P5V               : +5.406 V
AVSB              : +3.360 V
3VCC              : +3.392 V
3VSB              : +3.392 V
VBAT              : +3.136 V

-----
When battery voltage is lower than the value, PCH ME records a warning log.

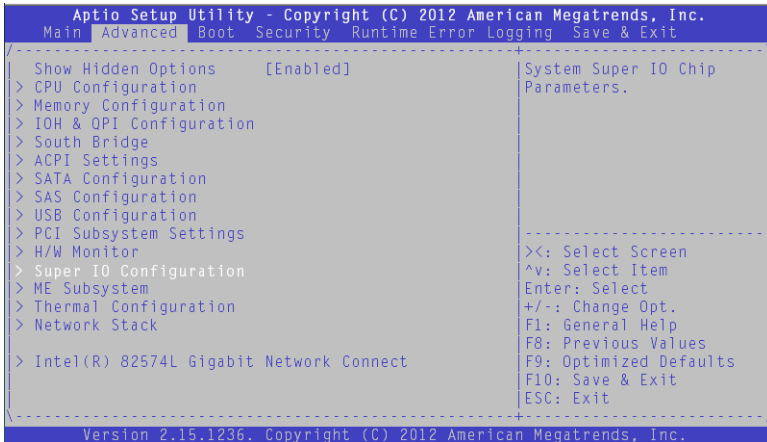
-----
<<: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit

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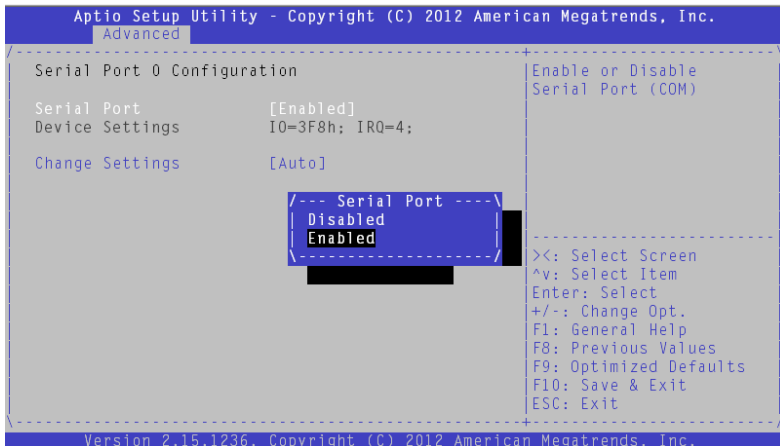
```


2.12 Super IO Configuration

This function allows you to view the super I/O chip and configure Serial Port setting.

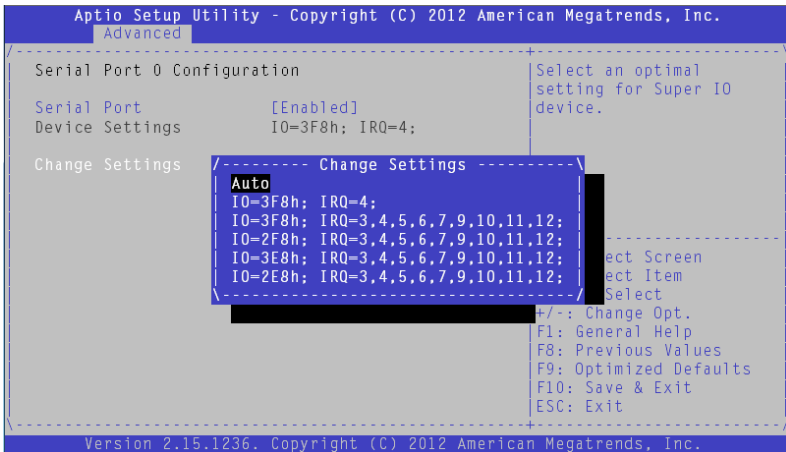


2.12.1 Serial Port 0 Configuration

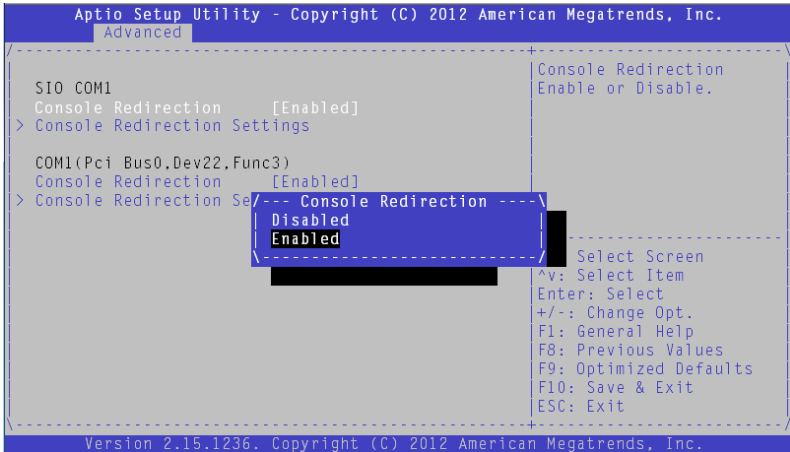
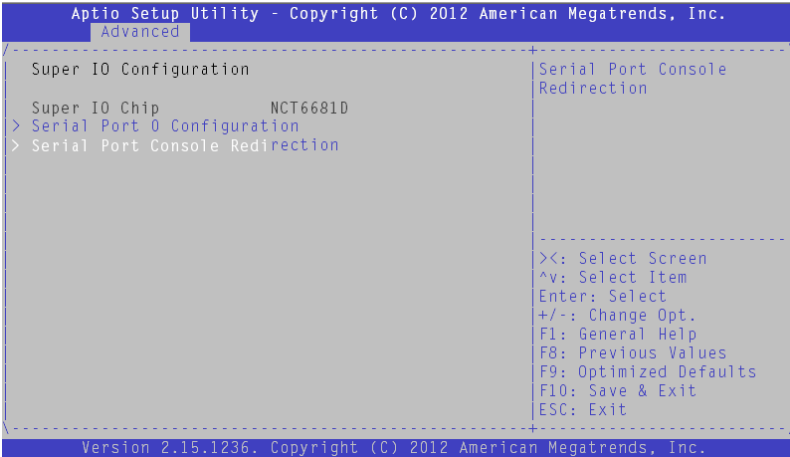


Select **Serial Port 0 Configuration** to enable or disable the serial port (COM). The default value is **Enabled**.

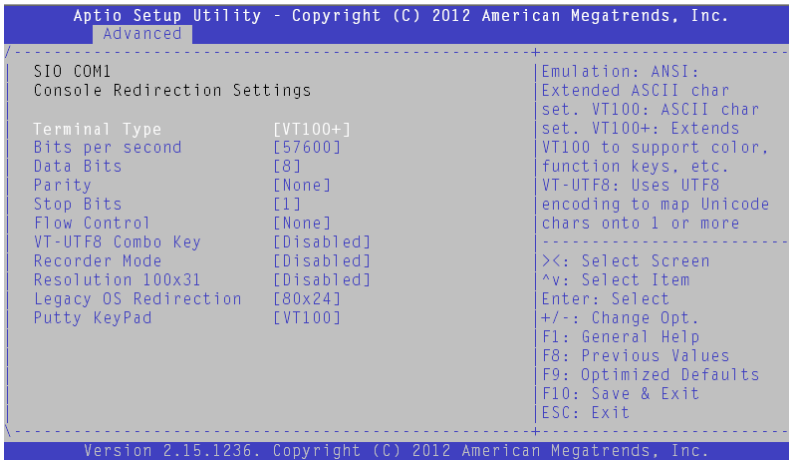
If you install a new component that must use a specific IRQ (Interrupt Request to the CPU), the new component will not work until the IRQ is assigned. To assign a specific IRQ to a new component, click on **Change Settings** to select an optimal setting.



2.12.2 Serial Port Console Redirection



Console Redirection Settings



Parameter	Description	Option
Terminal Type	Emulation: ANSI (extended ASCII character set), VT100 (ASCII character set), VT100+ (extends VT100 to support color, function keys, etc.).	VT100+ , VT100, ANSI
Bits per second	Selects serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speed.	57600 , 9600, 19200, 38400
Data Bits		8 , 7
Parity	A parity bit can be sent with the data bits to detect some transmission errors. Even: parity bit is 0 if the number of 1's in the data bits is even. Odd: parity bit is 0 if the number of 1's in the data bits is odd.	None , Even, Odd, Mark, Space

Stop Bits	Stop bits indicate the end of a serial data packet. (A start bit indicates the beginning). The standard setting is 1 stop bit. Communication with slow devices may require more than 1 stop bit.	1 0
Flow Control	Flow control can prevent data loss from buffer overflow when sending data. If the receiving buffers are full, a "Stop" signal can be sent to stop the data flow.	None, Hardware RTS/CTS
VT-UTF8 Combo Key	Enable VT-UTF8 Combination Key support for ANSI/VT100 terminals	Disabled, Enabled
Recorder Mode	If enabled, only text will be sent. This is to capture terminal data.	Disabled, Enabled
Legacy OS Redirection		80x24, 80x25
Putty KeyPad	Select Function Key and KeyPad on Putty.	VT100, LINUX, XTERMR6, SCO, ESCN, VT400

2.13 ME Subsystem

```
Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main  Advanced  Boot  Security  Runtime Error Logging  Save & Exit

-----
Show Hidden Options      [Enabled]                    ME Subsystem Parameters
> CPU Configuration
> Memory Configuration
> IOH & QPI Configuration
> South Bridge
> ACPI Settings
> SATA Configuration
> SAS Configuration
> USB Configuration
> PCI Subsystem Settings
> H/W Monitor
> Super IO Configuration
> ME Subsystem
> Thermal Configuration
> Network Stack

> Intel(R) 82574L Gigabit Network Connection ...

-----
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.
```

```
Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Advanced

-----
Intel ME Subsystem Configuration                               ^ Press <Enter> to
> DCMI Support                                                * Enable/Disable DCMI.
> View FRU information                                        *
> FRB Settings                                                *
ME Subsystem [Enabled]                                       *
ME Auto-Recover [Every Reset]                               *
HECI-1 Setting [Enabled]                                    *
ME Flash [Enabled]                                         *
ME BIOS Interface Ver 1.2                                   *
ME Version 2.1.7.231                                       *
ME FW Status Value 0xf0345                                 *
ME FW State SPS ME FW Active                               *
ME FW Operation State MO without UMA                       *
ME FW Error Code No Error                                  *
ME Ext FW Status Valu 0x39000501                           *
ME Vendor Label 0x21781030                                 *
BIOS Booting Mode Performance Optimized mod +             *
Cores Disabled 0                                           *
-----
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.
```

Parameter	Description	Option
DCMI Support		
DCMI Support	Enable or disable DCMI server management support.	Enabled Disabled
Power Restore policy	Power Restore Policy setting allows you to set how the system behaves when AC Power is restored.	Power always On, Power always off, Restore Power State, Power always on, No change
Serial Over LAN	Enable or disable Serial Over LAN (SOL) support.	Enabled Disabled
View FRU information	Display the FRU information.	
FRB Settings		
Change the FRB configuration		
FRB-2 Timer	Enable or disable FRB2 timer (POST timer). If disabled, the next two items are unavailable.	Disabled Enabled
FRB-2 Timer timeout	Set the FRB-2 timeout period.	15 minutes, 3 minutes, 4 minutes, 5 minutes, 6 minutes
FRB-2 Timer Policy	Configure how the system should respond if the FRB2 Timer expires.	Reset, Do Nothing, Power Down
ME Subsystem	Enable or disable the ME subsystem.	Enabled Disabled
ME Auto-Recover	ME FW will auto-recover if it is in recovery mode.	Every Reset, Next Reset, Disabled
HECI-1 Setting	Enable or disable HECI-1.	Enabled Disabled
ME Flash		Enable, Disable Flash ME

2.14 Thermal Configuration

```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main  Advanced  Boot  Security  Runtime Error Logging  Save & Exit
-----
> Show Hidden Options          [Enabled]
> CPU Configuration
> Memory Configuration
> IOH & OPI Configuration
> South Bridge
> ACPI Settings
> SATA Configuration
> SAS Configuration
> USB Configuration
> PCI Subsystem Settings
> H/W Monitor
> Super IO Configuration
> ME Subsystem
> Thermal Configuration
> Network Stack

> Intel(R) 82574L Gigabit Network Connection ...

-----
Thermal Configuration
-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit

Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.

```

```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Advanced
-----
Thermal Configuration

Thermal Management          [Enabled]
ME SMBus Thermal Repo       [Enabled]

PCH Temp Read                [Enabled]
CPU Energy Read              [Enabled]
CPU Temp Read                [Enabled]

Alert Enable Lock            [Disabled]

-----
Thermal Management
Enable/Disable. If
Enabled will initialize
the PCH Thermal
subsystem device,
D31:F6.

-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit

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```

Parameter	Description	Option
Thermal Management	Enable or disable thermal management.	Enabled
	Enable this function to initialize the PCH Thermal subsystem device, D31:F6.	Disabled
ME SMBus Thermal Repo	Enable or disable ME SMBus Thermal Reporting Configuration. If disabled, the next four items are unavailable.	Enabled
		Disabled
PCH Temp Read	Enable or disable PCH temperature read.	Enabled
		Disabled
CPU Energy Read	Enable or disable CPU energy read.	Enabled
		Disabled
CPU Temp Read	Enable or disable CPU temperature read.	Enabled
		Disabled
Alert Enable Lock	Enable or disable lock all Alert Enable settings.	Disabled
		Enabled

2.15 Network Stack

The network stack is a mostly single-threaded cross-platform library primarily for resource fetching. Default setting is **Disabled**.

```
Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main  Advanced  Boot  Security  Runtime Error Logging  Save & Exit
-----
Show Hidden Options      [Enabled]
> CPU Configuration
> Memory Configuration
> IOH & QPI Configuration
> South Bridge
> ACPI Settings
> SATA Configuration
> SAS Configuration
> USB Configuration
> PCI Subsystem Settings
> H/W Monitor
> Super IO Configuration
> ME Subsystem
> Thermal Configuration
> Network Stack
> Intel(R) 82574L Gigabit Network Connection ...

Network stack Settings
-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit

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```

By default Network stack is set to Disabled.

```
Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Advanced
-----
Network stack      [Disabled]
Enable/Disable the
network stack(Pxe and
UEFI)
-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit

Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.
```

If Enabled, you can enable or disable the Ipv4 and Ipv6 PXE supports.

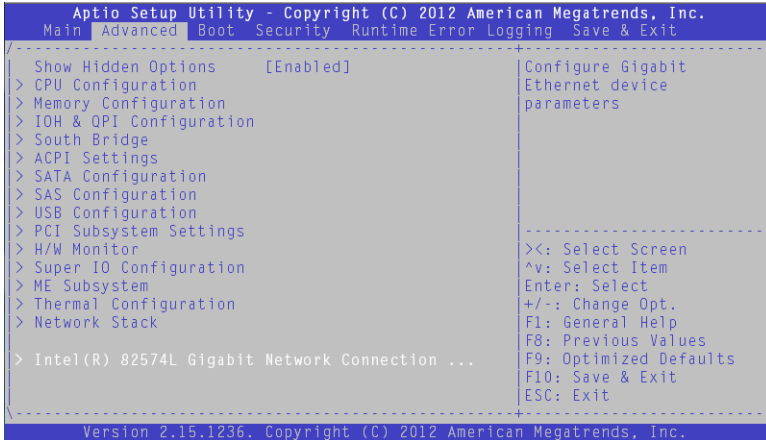
```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
  Advanced
-----
Network stack           [Enabled]
Ipv4 PXE Support        [Enabled]
Ipv6 PXE Support        [Enabled]
PXE boot wait time     0
-----
Enable/Disable the
network stack(Pxe and
UEFI)
-----
>>: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit
-----
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.
  
```

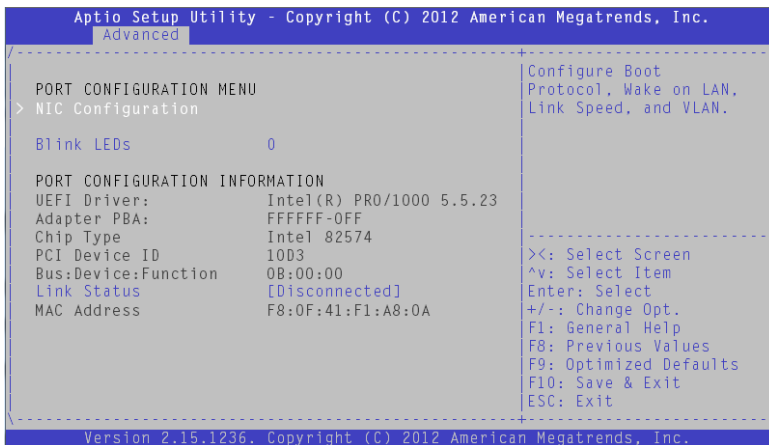
Parameter	Description	Option
Network Stack	Enable or disable the network stack (PXE and UEFI).	Enabled Disabled
Ipv4 PXE Support	Enable or disable Ipv4 PXE Boot Support. If disabled, Ipv4 PXE boot option will not be created.	Enabled Disabled
Ipv6 PXE Support	Enable or disable Ipv6 PXE Boot Support. If disabled, Ipv6 PXE boot option will not be created.	Disabled Enabled

2.16 Intel (R) 82574L Gigabit Network Connection

This submenu allows you to configure the Gigabit Ethernet device parameters.

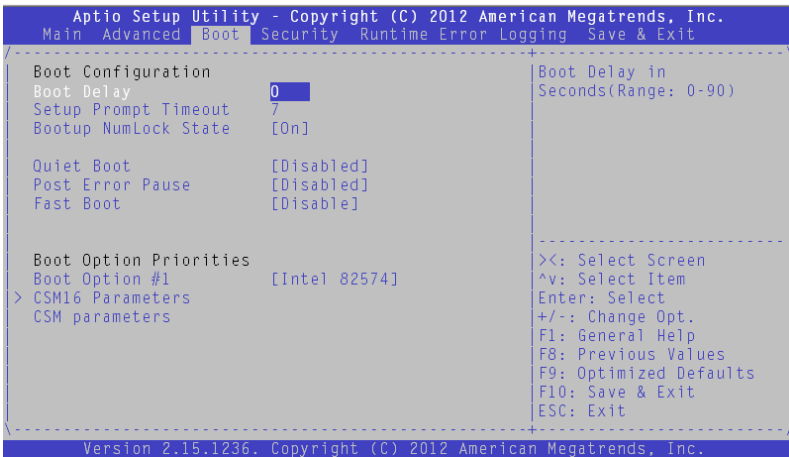


2.16.1 NIC Configuration



Parameter	Description	Option
Link Speed	Specifies the port speed used for the selected boot protocol.	Auto Negotiated , 10 mbps Half, 10 mbps Full, 100 mbps Half, 100 mbps Full
Wake On LAN	Enables the server to be powered on using an in-band magic packet.	Enabled Disabled

3. Boot Menu



Parameter	Description	Option
Boot Delay	Boot Delay in seconds (range is 0 to 90)	
Setup Prompt Timeout	Define the number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.	5
Bootup Numlock State	Select the keyboard NumLock state.	On Off

Quiet Boot	Enable or disable the quiet boot option. If enabled, the BIOS will display the full screen logo during the boot-up sequence, hiding normal POST messages. If disabled, the BIOS will	Disabled, Enabled
Fast Boot	Enable or disable boot with initialization of a minimal set of devices required to launch active boot option. Has no effect for BBS boot options. If enabled, you will see the next four parameters.	Disable, Enable
VGA Support	If Auto, only install Legacy OpRom with Legacy OS and logo would NOT be shown during POST. EFI driver will still be installed with ESI OS.	EFI Driver, Auto
USB Support		Partial Initial, Disable, Full Initial
PS2 Devices Support	If disabled, PS2 devices will be skipped.	Enable, Disable
Network Stack Driver	If disabled, Network Stack Driver will be skipped.	Disable, Enable
Boot Option Priorities	Set the booting priority of the 1 st , 2 nd , 3 rd and 4 th Device.	
CSM16 Parameters		
GateA20 Active	Upon Request – GA20 can be disabled using BIOS services. Always – do not allow disabling of GA20. This option is useful when any RT code is executed above 1 MB.	Upon Request, Always
Option ROM Messages	Set display mode for Option ROM	Force BIOS, Keep Current
NT19 Trap Response	BIOS reaction on INT19 trapping by Option ROM. Immediate – execute the trap right away. Postponed – execute the trap during legacy boot.	Immediate, Postponed

CSM parameters		
Launch CSM	Enable or disable launching of CSM.	Enabled, Disabled
Boot option filter	Control what devices system can boot to.	Legacy only, UEFI only
Launch PXE OpROM poli	Control the execution of UEFI and Legacy PXE OpROM.	Legacy only, Do not launch, UEFI only
Launch Storage OpROM	Control the execution of UEFI and Legacy Storage OpROM.	Legacy only, Legacy first, UEFI first, Do not launch, UEFI only
Launch Video OpROM poli	Control the execution of UEFI and Legacy Video OpROM.	Legacy only, Legacy first, UEFI first, Do not launch, UEFI only
Other PCI Device ROM	For {CI devices other than Network, Mass storage or Video defines which OpROM to launch.	Legacy OpROM, UEFI OpROM

4. Security Menu

This function allows you to set or change the Administrator or User password for the system.

```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Boot Security Runtime Error Logging Save & Exit
-----
Password Description
If ONLY the Administrator's password is set,
then this only limits access to Setup and is
only asked for when entering Setup.
If ONLY the User's password is set, then this
is a power on password and must be entered to
boot or enter Setup. In Setup the User will
have Administrator rights.
The password length must be
in the following range:
Minimum length          3
Maximum length         20

Administrator Password
User Password
SCE/AFU Password

Set Administrator
Password

-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit

Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.
  
```

```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Boot Security Runtime Error Logging Save & Exit
-----
Password Description
If ONLY the Administrator's password is set,
then this only limits access to Setup and is
only asked for when entering Setup.
If ONLY the User's password is set, then this
is a power on password and must be entered to
boot or enter Setup. In S/ Create New Password -\
have Administrator rights
The password length must
in the following range:
Minimum length          3
Maximum length         20

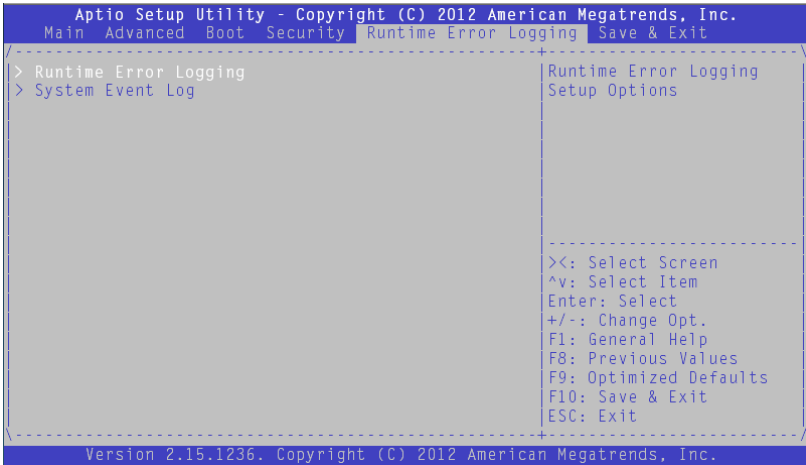
Administrator Password
User Password
SCE/AFU Password

Set Administrator
Password

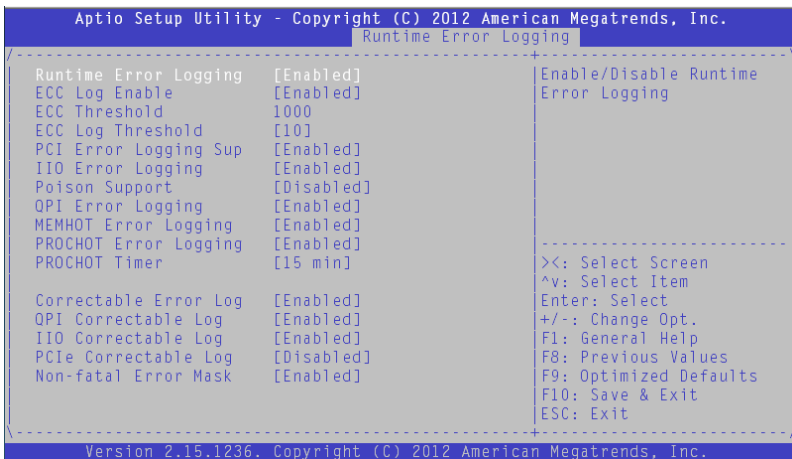
-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit

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```


5. Runtime Error Logging



5.1 Runtime Error Logging



Parameter	Description	Option
Runtime Error Logging	Enable or disable Runtime Error Logging.	Enabled Disabled
ECC Log Enable	Enable or disable ECC error log.	Enabled Disabled
ECC Threshold	Enter the ECC Threshold value.	
ECC Log Threshold	Upper limit of logged ECC correctable errors.	10/50/100/ Disabled
PCI Error Logging	Enable or disable PCI error logging.	Enabled Disabled
IIO Error Logging	Enable or disable IIO error logging.	Enabled Disabled
Poison Support	Enable or disable Poison Support. When poisoning is enabled, CPU does not signal the uncorrectable error via MCERR but may signal CMCI if CMCI is enabled.	Enabled Disabled
QPI Error Logging	Enable or disable QPI error logging.	Enabled Disabled
MEMHOT Error Logging	Enable or disable Memory Hot error logging.	Enabled Disabled
PROCHOT Error Logging	Enable or disable Processor Hot error logging.	Enabled Disabled
PROCHOT Timer	PROCHOT error log timer.	10 sec/10 min/ 15 min/20 min
Correctable Error Log	Enable or disable correctable error logging.	Enabled Disabled
QPI Correctable Log	Enable or disable QPI correctable event log.	Enabled Disabled
IIO Correctable Log	Enable or disable IIO correctable event log.	Enabled Disabled

PCIe Correctable Log	Enable or disable PCIe correctable event log.	Enabled Disabled
Non-fatal Error Mask	Enable or disable Advisory Non-fatal Error Mask.	Enabled Disabled

5.2 System Event Log

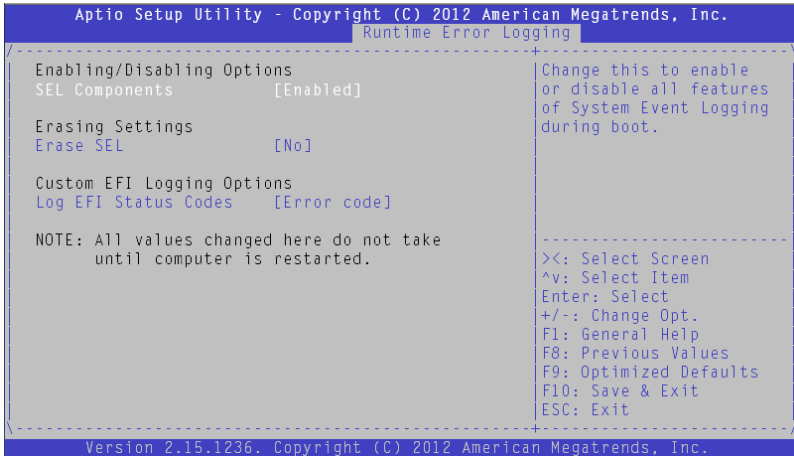
```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Boot Security Runtime Error Logging Save & Exit
-----
> Runtime Error Logging
> System Event Log

Press <Enter> to change
the sel event log
configuration.

-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit
-----
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```



Parameter	Description	Option
SEL Components	Enable or disable all features of System Event Logging during boot.	Enabled Disabled
Erase SEL	Change options for erasing SEL.	No, Yes, On next reset, On every reset
Log EFI Status Codes	Disable the logging of EFI Status Codes or log only error code or only progress code or both	Error code, Progress code, Disabled, Both

6. Save & Exit

```

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
Main Advanced Boot Security Runtime Error Logging Save & Exit
-----
Save Changes and Exit
Discard Changes and Exit
Save Changes and Reset
Discard Changes and Reset

Save Options
Save Changes
Discard Changes

Restore Defaults
Save as User Defaults
Restore User Defaults

Boot Override
Intel 8257

Exit system setup after
saving the changes.

-----
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit
-----
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```

Parameter	Description
Save Changes and Exit	Exit setup after saving the changes.
Discard Changes and Exit	Exit 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 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 default values for all the setup options.
Save as User Defaults	Save changes done so far as User Defaults.
Restore User Defaults	Restore the User Defaults to all the setup options.
Boot Override	Select boot device that will override the original boot order.
