Siera PRO 1116, PRO 1124, PRO 1216, PRO 1224 server user manual

The information in this User's Manual has been carefully reviewed and is believed to be accurate. The vendor assumes no responsibility for any inaccuracies that may be contained in this document, makes no commitment to update or to keep current the information in this manual, or to notify any person or organization of the updates.

FCC Statement: This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

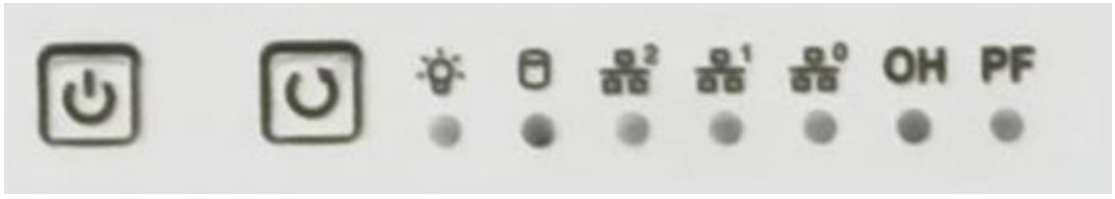
Reorient or relocate the receiving antenna.
Increase the separation between the equipment and receiver.
Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
Consult the authorized dealer or an experienced radio/TV technician for help.

Specification

	PRO 1216	PRO 1224	PRO 1116	PRO 1124
CPU:	E5 2600 Double CPU 4core		E3 4core	
Chipset:	Intel Chipset Platform Controller Hub PCH			
Intel DMI:	6.4GT/s		4.8GT/s	
Memory:	32G DDR3 ECC memory		4G DDR3 ECC Memory, Up to 32GB	
Memory Error Detection:	Error correction unit to detect double-bit errors			
Network Interface:	2 Intel 10/100/1000 Gigabit Ethernet interface, maximum support eight 1000Mb ports			
Hard Drive:	SATAII			
Number of Hard Drives:	SATA 16 (8TB each one)	SATA 24 (8TB each one)	SATA 16 (8TB each one)	SATA 24 (8TB each one)
CD-ROM:	Supported (not included)			
System Boot Disk:	60GB SSD			
Hot-swap Backplane:	Support with the PM function, support hot-swappable backplane			
Expansion Slots:	1xPCI-Ex16, 2xPCI-Ex8, 1xPCI			

USB:	6xUSB2.0			
Display Interface:	1xDVI, 1xHDMI			
Storage Expansion:	Optional support for external eSATA, SAS, FC disk array expansion cabinet			
RAID:	Support Raid0, Raid1, Raid5, JBOD, Raid6 with 1 Spare			
OS:	Windows 10 PRO Included			
Dimensions:	3U 16bay 19" standard Rack	4U 24bay 19" standard Rack	3U 16bay 19" standard Rack	4U 24bay 19" Standard Rack
Power:	Dedicated power storage server, Optional redundant power supply			
Environment:	Temperature: 0°C / 50°C Humidity: 10% / 85%			

Front Panel Features and Indicators



Power on button

Rest button

Power indicator

HDD indicator

Network Interface controller 2 indicator

Network Interface controller 1 indicator

Network Interface controller 0 indicator

Over heat indicator

Power failed indicator

BIOS

Introduction

This chapter describes the AMI BIOS Setup Utility. The ROM BIOS is stored in a Flash EEPROM and can be easily updated. This chapter describes the basic navigation of the AMI BIOS Setup Utility setup screens.

Note: Starting BIOS Setup Utility

To enter the AMI BIOS Setup Utility screens, press the <Delete> key while the system is booting up.

Note: In most cases, the <Delete> key is used to invoke the AMI BIOS setup screen. There are a few cases when other keys are used, such as <F1>, <F2>, etc.

Each main BIOS menu option is described in this manual. The Main BIOS setup menu screen has two main frames. The left frame displays all the options that can be configured by the user. The right frame displays the key legend is an area reserved for a text message. When an option is selected in the left frame, it is highlighted in white. Often a text message will accompany it. (Note: the AMI BIOS has default text messages built in. Supermicro retains the option to include, omit, or change any of these text messages.)

The AMI BIOS Setup Utility uses a key-based navigation system called "hot keys". Most of the AMI BIOS setup utility "hot keys" can be used at any time during the setup navigation process. These keys include <F1>, <F4>, <Enter>, <ESC>, arrow keys, etc.

How To Change the Configuration Data

The configuration data that determines the system parameters may be changed by entering the AMI BIOS Setup utility. This Setup utility can be accessed by pressing <Del> at the appropriate time during system boot.

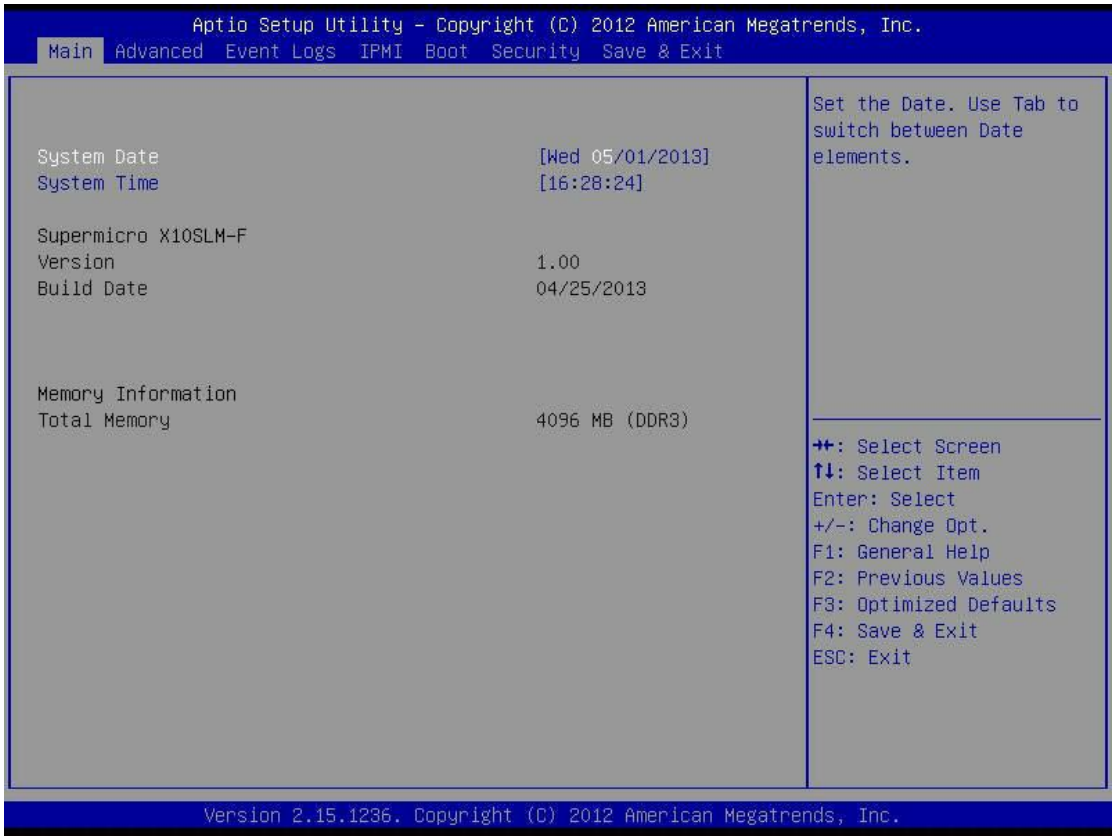
How to Start the Setup Utility

Normally, the only visible Power-On Self-Test (POST) routine is the memory test. As the memory is being tested, press the \<Delete> key to enter the main menu of the AMI BIOS Setup Utility. From the main menu, you can access the other setup screens. An AMI BIOS identification string is displayed at the left bottom of the screen, below the copyright message.

Warning: Do not upgrade the BIOS unless your system has a BIOS-related issue. Flashing the wrong BIOS can cause irreparable damage to the system. If you have to update the BIOS, do not shut down or reset the system while the BIOS is updating. This is to avoid possible boot failure.

Main Setup

When you first enter the AMI BIOS Setup Utility, you will enter the Main setup screen. You can always return to the Main setup screen by selecting the Main tab on the top of the screen. The Main BIOS Setup screen is shown below.



The following Main menu items will be displayed:

System Time/System Date

Use this option to change the system time and date. Highlight System Time or System Date using the arrow keys. Enter new values through the keyboard. Press the <Tab> key or the arrow keys to move between fields. The date must be entered in Day MM/DD/YY format. The time is entered in HH:MM:SS format.

Note: The time is in the 24-hour format. For example, 5:30 P.M. appears as 17:30:00.The following BIOS items will also be displayed:

Version

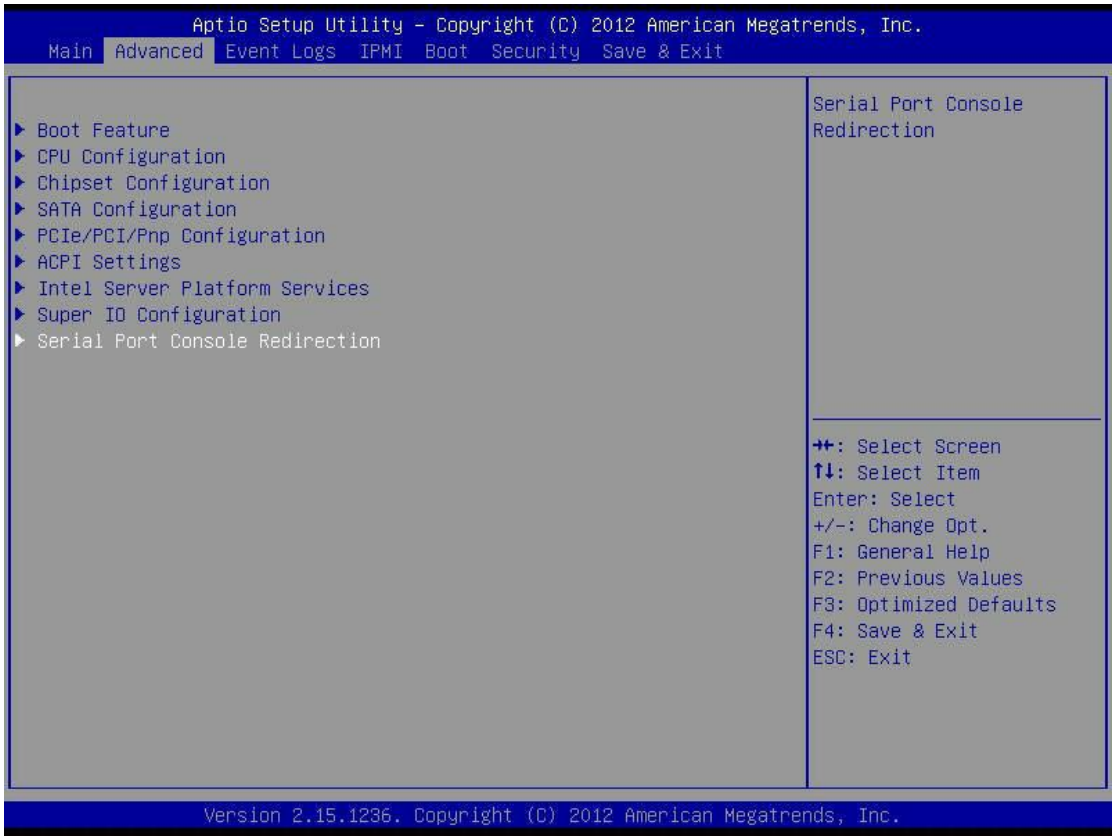
Build Date

Memory Information

Total Memory

Advanced Setup Configurations

Use the arrow keys to select Boot Setup and press <Enter> to access the submen items:



Warning: Take Caution when changing the Advanced settings. An incorrect value, a very high DRAM frequency or an incorrect DRAM timing setting may cause system to become unstable. When this occurs, revert to the setting to its manufacture default setting.

Boot Feature

Quiet Boot

This feature selects the screen display between POST messages at bootup. Select Disabled to display the POST messages. Select Enabled to display the OEM logo instead of the normal POST messages. The options are Enabled and Disabled.

AddOn ROM Display Mode

This feature sets the display mode for the Option ROM. Select Keep Current to use the current AddOn ROM display setting. Select Force BIOS to use the Option ROM display mode set by the system BIOS. The options are Force BIOS and Keep Current.

Bootup Num-Lock

This feature selects the Power-on state for the Numlock key. The options are Off and On.

Wait For 'F1' If Error

This feature forces the system to wait until the 'F1' key is pressed if an error occurs. The options are Disabled and Enabled.

Interrupt 19 Capture

Interrupt 19 is the software interrupt that handles the boot disk function. When this item is set to Enabled, the ROM BIOS of the host adaptors will "capture" Interrupt 19 at bootup and allow the drives that are attached to these host adaptors to function as bootable disks. If this item is set to Disabled, the ROM BIOS of the host adaptors will not capture Interrupt 19, and the drives attached to these adaptors will not function as bootable devices. The options are Enabled and Disabled.

Re-try Boot

If this item is enabled, the BIOS will automatically reboot the system from a specified boot device after its initial boot failure. The options are Disable, Legacy Boot, and EFI Boot.

Power Configuration

Watch Dog Function

If enabled, the Watch Dog Timer will allow the system to reboot when it is inactive for more than 5 minutes. The options are Enabled and Disable.

Power Button Function

This feature controls how the system shuts down when the power button is pressed. Select 4_Seconds_Override for the user to power off the system after pressing and holding the power button for 4 seconds or longer. Select Instant Off to instantly power off the system as soon as the user presses the power button. The options are 4 Seconds Override and Instant Off.

Restore on AC Power Loss

Use this feature to set the power state after a power outage. Select Power-Off for the system power to remain off after a power loss. Select Power-On for the system power to be turned on after a power loss. Select Last State to allow the system to resume its last power state before a power loss. The options are Power-On, Stay-Off and Last State.

CPU Configuration

The following CPU information will be displayed:

Type of CPU
CPU Signature
Microcode Patch
Maximum CPU Speed
Minimum CPU Speed
CPU Speed
Processor Cores
Intel HT(Hyper-Threading) Technology
Intel VT-x (Virtualization) Technology
Intel SMX (Safer Mode Extensions) Technology
64-bit
EIST (Enhanceed Intel SpeedstepTechnology) Technology
CPU C3 State
CPU C6 State
CPU C7 State
L1 Data Cache
L1 Code Cache
L2 Cache
L3 Cache

Hyper-threading

Select Enabled to support Intel Hyper-threading Technology to enhance CPU performance. The options are Enabled and Disabled.

Active Processor Cores

This feature determines how many CPU cores will be activated for each CPU. When all is selected, all cores in the CPU will be activated. (Please refer to Intel's web site for more information.) The options are All,1, 2, and 3.

Limit CPUID Maximum

Select Enabled to set the maximum CPU ID value and to boot the legacy operating systems that cannot support processors with extended CPUID functions. The options are Enabled and Disable (for the Windows OS).

Execute Disable Bit (Available if supported by OS & the CPU)

Set to Enabled to enable the Execute Disable Bit which will allow the processor to designate areas in the system memory where an application code can execute and where it cannot, thus preventing a worm or a virus from flooding illegal codes to overwhelm the processor or damage the system during an attack. The default is Enabled. (Refer to Intel and Microsoft Web Sites for more information.)

Intel Virtualization Technology (Available when supported by the CPU)

Select Enabled to use the Intel Virtualization Technology to allow one platform to run multiple operating systems and applications in independent partitions, creating multiple "virtual" systems in one physical computer. The options are Enabled and Disabled.

Hardware Prefetcher (Available when supported by the CPU)

If set to Enabled, the hardware prefetcher will prefetch streams of data and instructions from the main memory to the L2 cache to improve CPU performance. The options are Disabled and Enabled.

Adjacent Cache Line Prefetch (Available when supported by the CPU)

Select Enabled for the CPU to prefetch both cache lines for 128 bytes as comprised. Select Disabled for the CPU to prefetch both cache lines for 64 bytes. The options are Disabled and Enabled.

Note: If there is any change to this setting, you will need to power off and restart the system for the change to take effect. Please refer to Intel's web site for detailed information.

CPU AES

Select Enable to enable Intel CPU Advanced Encryption Standard (AES) Instructions for CPU to enhance data integrity. The options are Enabled and Disabled.

EIST

EIST (Enhanced Intel SpeedStep Technology) allows the system to automatically adjust processor voltage and core frequency in an effort to reduce power consumption and heat dissipation. Please refer to Intel's web site for detailed information. The options are Disabled and Enabled.

Turbo Mode

This feature allows processor cores to run faster than the frequency recommended by the manufacturer. The options are Disabled and Enable. If this feature is set to Enabled, the following items will display:

CPU Power Limit1 (Available when "Turbo Mode" is set to Enabled)

Use this feature to set the power limit for CPU1. Use the number keys on your keyboard to enter the value. Enter 0 to use the manufacture default setting.

CPU Power Limit1 Time (Available when "Turbo Mode" is set to Enabled)

This item allows the user to determine how long CPU1 should operate at the power limit set by the user for the item above. Use the number keys on your keyboard to enter the value. Enter 0 to use the manufacture default setting.

CPU Power Limit2 (Available when "Turbo Mode" is set to Enabled)

Use this feature to set the power limit for CPU2. Use the number keys on your keyboard to enter the value. Enter 0 to use the manufacture default setting.

DDR Power Limit1 (Available when “Turbo Mode” is set to Enabled)

Use this feature to set the power limit for DDR1. Use the number keys on your keyboard to enter the value. Enter 0 to use the manufacture default setting.

DDR Power Limit1 Time (Available when “Turbo Mode” is set to Enabled)

This item allows the user to determine how long DDR1 should operate at the power limit set by the item above. Use the number keys on your keyboard to enter the value. Enter 0 to use the manufacture default setting.

DDR Power Limit2 (Available when “Turbo Mode” is set to Enabled)

Use this feature to set the power limit for DDR2. Use the number keys on your keyboard to enter the value. Enter 0 to use the manufacture default setting.

1-Core Ratio Limit (Available when “Turbo Mode” is set to Enabled)

This increases (multiplies) 1 clock speed in the CPU core in relation to the bus speed when one CPU core is active. Press "+" or "-" on your keyboard to change this value. Enter 0 to use the manufacture default setting.

2-Core Ratio Limit (Available when “Turbo Mode” is set to Enabled)

This increases (multiplies) 2 clock speeds in the CPU core in relation to the bus speed when two CPU cores are active. Press "+" or "-" on your keyboard to change this value. Enter 0 to use the manufacture default setting.

3-Core Ratio Limit (Available when “Turbo Mode” is set to Enabled)

This increases (multiplies) 3 clock speeds in the CPU core in relation to the bus speed when three CPU cores are active. Press "+" or "-" on your keyboard to change this value Enter 0 to use the manufacture default setting.

4-Core Ratio Limit (Available when “Turbo Mode” is set to Enabled)

This increases (multiplies) 4 clock speeds in the CPU core in relation to the bus speed when four CPU cores are active. Press "+" or "-" on your keyboard to change this value Enter 0 to use the manufacture default setting.

Energy Performance

Use this feature to select an appropriate fan setting to achieve the maximum system performance (with maximum cooling) or maximum energy efficiency (with maximum power saving). The fan speeds are controlled by the firmware management via IPMI 2.0. The options are Performance, Balanced Performance, Balanced Energy, and Energy Efficient.

VR Current Value

Use this feature to set the limit on the current voltage regulator. Press "+" or "-" on your keyboard to change this value. Enter 0 to use the manufacture default setting.

CPU C-States

C-States architecture, a processor power management platform developed by Intel, can further reduce power consumption from the basic C1 (Halt State) state that blocks clock cycles to the CPU. Select Enabled for **CPU C-Sates support**. The options are Enabled and Disabled. If this feature is set to Enabled, the following items will display:

Enhanced C1 State (Available when "CPU C-States" is set to Enabled)

Select Enabled to enable Enhanced C1 Power State to boost system performance. The options are Enabled and Disabled.

CPU C3 Report (Available when "CPU C-States" is set to Enabled)

Select Enabled to allow the BIOS to report the CPU C3 State (ACPI C2) to the operating system. During the CPU C3 State, the CPU clock generator is turned off. The options are Enabled and Disabled.

CPU C6 Report (Available when "CPU C-States" is set to Enabled)

Select Enabled to allow the BIOS to report the CPU C6 State (ACPI C3) to the operating system. During the CPU C6 State, the power to all caches is turned off. The options are Enabled and Disabled.

C6 Latency (Available when "CPU C-States" is set to Enable)

Select Short to set a short delay time(period) during which the BIOS reports CPU C6 State (ACPI C3) to the operating system. Select Long to set a long delay time(period) during which the BIOS reports CPU C6 State (ACPI C3) to the operating system. The options are Short and Long.

C7 Latency (Available when "CPU C-States" is set to Enable)

Select Enabled to allow the BIOS to report the CPU C7 State (ACPI C3) to the operating system. CPU C7 State is a processor-specific low C-State. The options are Enabled and Disabled.

C7 Latency (Available when "CPU C-States" is set to Enable)

Select Short to set a short delay time(period) during which the BIOS reports CPU C7 State (ACPI C3) to the operating system. Select Long to set a long delay time(period) during which the BIOS reports CPU C7 State (ACPI C3) to the operating system. The options are Short and Long.

C1 Auto Demotion

When this item is enabled, the CPU will conditionally demote C3, C6 or C7 requests to C1 based on un-cored auto-demote information. The options are Disabled and Enable.

C3 Auto Demotion

When this item is enabled, the CPU will conditionally demote C6 or C7 requests to C3 based on un-cored auto-demote information. The options are Disabled and Enable.

C-State Pre-Wake

Select Enabled to support C State Pre-Wake State features. The options are Enabled and Disabled

Package C-State limit

Select Auto for the AMI BIOS to automatically set the limit on the C-State package register. The options are C0, C1, C6, C7 and Auto.

Lake Tiny Feature

Select Enabled for Lake Ting feature support. The options are Disabled and Enabled.

ACPI T State

Select Enabled for ACPI T state (processor throttling) feature support. The options are Disabled and Enabled.

Chipset Configuration

WARNING: Setting the wrong values in the following sections may cause the system to malfunction.

System Agent (SA) Configuration

This item displays the information for the system Agent.

System Agent Bridge Name

VT-d Capability

VT-d

Select Enabled to enable Intel's Virtualization Technology support for Direct I/O VT-d by reporting the I/O device assignments to VMM (Virtual Memory Management) through the DMAR ACPI Tables. This feature offers fully-protected I/O resource-sharing across the Intel platforms, providing the user with greater reliability, security and availability in networking and data-sharing. The settings are Enabled and Disable.

PCI-E Configuration

This item displays the information of the (graphics) device installed on a PCI-E slot.

PEG0

PEG1

PEG0 - Gen X

This item allows the generation configuration of PEG0 on the PCI-E slot. The options are Auto, Gen1, Gen2 and Gen3.

PEG1 - Gen X

This item allows the generation configuration of PEG1 on the PCI-E slot. The options are Auto, Gen1, Gen2 and Gen3.

Detect Non-Compliance Device

Select Enabled for the AMI BIOS will automatically detect a PCI-E device that is not in compliance. The options are Enabled and Disabled.

Program PCI-E ASPM After OpROM

PCI-E ASPM, Active State Power Management for PCI-Express slots, is a power management protocol used to manage power consumption of serial-link devices installed on PCI-Exp slots during prolonged off-peak time. If this item is set to Enabled, PCI-E ASMP will be programmed after OpROM. If this item is set to Disabled, the PCI-E ASPM will be programmed before OpROM. The options are Enabled and Disabled.

PEG0-ASPM/PEG1-ASPM

This feature configures the ASPM (Active State Power Management) settings for the graphics devices installed on PCI-E Slot 0, Slot 1, or Slot2. The options are Disabled, Auto, ASPM L0s, ASPM L1s, and ASPM L0sL1.

Memory Configuration

This item displays the information on the memory modules installed on the motherboard.

Memory RC Version

Memory Frequency

Total Memory

Memory Voltage

DIMM A1

DIMM A2

DIMM B1

DIMM B2

CAS Latency (tCL)

Minimum Delay Time

CAS to RAS (tRCDmin)

Row Precharge (tRPmin)

Active to Precharege (tRASmin)

Memory Frequency Limiter

This feature sets the limit of memory frequency for DIMM modules installed on the the motherboard. The options are 1067 (MHz), 1333 (MHz), 1600 (MHz), and Auto.

Max TOLUD (Top of Low Usable DRAM)

This feature sets the maximum TOLUD value, which specifies the “Top of Low Usable DRAM” memory space to be used by internal graphics devices, GTT Stolen Memory, and TSEG, respectively, if these devices are enabled. The options are Enabled and Dynamic, 1GB, 1.25GB, 1.5GB, 1.75GB, 2GB, 2.25GB, 2.5GB, 2.75GB, 3GB and 3.25GB.

Note: TSEG is a block of memory that is only accessible by the processor while operating in SMM mode.

Memory Scrambler

This feature enables or disables memory scrambler support for memory error correction. The settings are Enabled and Disabled.

PCH-IO Configuration

This item displays the information for PCH-IO Chip.

Intel PCH Rev ID

USB Configuration

USB Devices

EHCI1

Select Enabled to enable EHCI (Enhanced Host Controller Interface) Controller 1 for USB 2.0 support. One EHCI controller must always be enabled. The settings are Enabled and Disabled.

EHCI2

Select Enabled to enable EHCI (Enhanced Host Controller Interface) Controller 2 for USB 2.0 support. One EHCI controller must always be enabled. The settings are Enabled and Disabled.

Legacy USB Support

This feature enables support for legacy USB devices. Select Auto to disable legacy support if USB devices are not present. Select Disable to have USB devices available only for EFI applications. The options are Enabled, Disabled and Auto.

Port 60/64 Emulation

This feature enables or disables I/O port 60h/64h emulation support. This should be enabled for complete USB keyboard legacy support for non-USB-aware Operating Systems. The options are Disabled and Enabled.

XHCI Hand-Off

This item is a work-around for Operating Systems that do not have XHCI (Extensible Host Controller Interface) hand-off support. The XHCI ownership change should be claimed by the XHCI driver. The settings are Enabled and Disabled.

EHCI Hand-Off

This item is for Operating Systems that does not support Enhanced Host Controller Interface (EHCI) hand-off. When enabled, EHCI ownership change will be claimed by the EHCI driver. The settings are Enabled and Disabled.

XHCI Mode

This feature handles the mode of operation for the XHCI (Extensible Host Controller Interface) controller. The settings are Smart Auto, Auto, Enable, Disabled and Manual.

EHCI Hand-Off

This item is for Operating Systems that do not support Enhanced Host Controller Interface (EHCI) hand-off. When this item is enabled, EHCI ownership change will be claimed by the EHCI driver. The settings are Enabled and Disabled.

XHCI Mode

This feature handles the operation mode for the XHCI (Extensible Host Controller Interface) controller. The settings are Smart Auto, Auto, Enabled, Disabled and Manual.

SATA Configuration

of the SATA Devices and displays the following items:

SATA Controllers

This item Enables or Disables the built-in SATA controllers on the motherboard. The options are Enabled and Disabled.

SATA Mode Selection

This item selects the mode for the installed SATA drives. The options are IDE, AHCI and RAID.

SATA RAID Option ROM/UEFI Driver (Available if the item above – SATA Mode Select is set to AHCI or RAID)

Select Enabled to use the SATA RAID Option ROM/UEFI driver for system boot. The options are Enabled and Disabled.

If the item above -SATA Mode Select is set to AHCI, the following items are displayed:

Serial ATA Port 0~ Port 5

This item displays the information detected on the installed SATA drives on the particular SATA port.

Model number of drive and capacity

Software Preserve Support

Port 0 ~ Port 5 Hot Plug

This feature designates the port specified for hot plugging. Set this item to Enabled for hot plugging support, which will allow the user to replace a SATA disk drive without shutting down the system. The options are Enabled and Disabled.

Port 0 ~ Port 5 SATA Device Type

This feature configures the selected SATA port to support either a solid state drive or hard disk drive. The options are Hard Disk Drive and Solid Sate Drive.

Port 0 ~ Port 5 Spin Up Device

On an edge detect from 0 to 1, set this item to allow the PCH to start a COMRESET initialization sequence to the device. The options are Enabled and Disabled.

If the item above – SATA Mode Select is set to IDE, the following items are displayed:

Serial ATA Port 0~ Port 5

This item displays the information detected on the installed SATA drives on the particular SATA port.

Model number of drive and capacity

Software Preserve Support

If the item above – SATA Mode Select is set to RAID, the following items are displayed.

Serial ATA Port 0~ Port 5

This item displays the information detected on the installed SATA drives on the particular SATA port.

Model number of drive and capacity

Software Preserve Support

Port 0 ~ Port 5 Hot Plug

This feature designates this port for hot plugging. Set this item to Enabled for hot-plugging support, which will allow the user to replace a SATA drive without shutting down the system. The options are Enabled and Disabled.

Port 0 ~ Port 1 SATA Device Type

This feature configures the selected SATA port to support either a solid state drive or hard disk drive. Set this item to Enabled to enable hot-plugging. The options are Hard Disk Drive and Solid Sate Drive.

Port 0 ~ Port 5 Spin Up Device

On an edge detect from 0 to 1, set this item to allow the PCH to start a COMRESET initialization sequence to the device. The options are Enabled and Disabled.

PCIe/PCI/PnP Configuration

This feature allows the user to set the PCI/PnP configurations for the following items:

Above 4G Decoding

Select Enabled for 64-bit devices to be decoded above the 4GB address space If 64bit PCI decoding is supported by the system. The options are Disabled and Enabled.

VGA Palette Snoop

Select Enabled to support VGA palette register snooping which will allow the PCI cards that do not contain their own VGA color palette to examine the video cards palette and mimic it for proper color display. The options are Disabled and Enabled.

PERR# Generation

Select Enabled to allow a PCI device to generate a PERR number for a PCI Bus Signal Error Event. The options are Enabled and Disabled.

SERR# Generation

Select Enabled to allow a PCI device to generate an SERR number for a PCI Bus Signal Error Event. The options are Enabled and Disabled.

PCH SLOT4 PCI-E 2.0 X4 (IN X8) OPROM

Use this feature to enable or disable PCIe slot Option ROMs to boot the computer using a device installed on the slot specified. The options are Disabled, Legacy and EFI.

CPU SLOT6 PCI-E 3.0 X8 (IN X16) OPROM

Use this feature to enable or disable PCIe slot Option ROMs to boot the computer using a device installed on the slot specified. The option are Disabled, Legacy and EFI.

CPU SLOT5 PCI-E 3.0 X8 OPROM

Use this feature to enable or disable PCIe slot Option ROMs to boot the computer using a device installed on the slot specified. The option are Disabled, Legacy and EFI.

Launch Storage OPROM Policy

This feature controls how the system executes UEFI (Unified Extensible Firmware Interface), and legacy storage OPROM. Select Legacy Only to boot the system using a legacy device installed in a PCI slot. The options are Do Not Launch, UEFI Only and Legacy Only.

Other PCI Device ROM Priority

This feature selects a PCI device OPROM to launch for system boot if this device is not a network, mass storage, or video device. The options are UEFI Only and Legacy Only.

Onboard LAN1/LAN2 Option ROM

Select iSCSI to use the iSCSI Option ROM to boot the computer using an iSCSI device installed in a LAN port specified. Select PXE (Preboot Execution Envirnment) to boot the computer using a PXE device installed in a LAN port specified. Select Disabled to prevent system boot using a device installed in a LAN port. The options are Disabled, PXE and iSCSI. The default setting for Onboard LAN1 Option ROM is PXE. The default setting for Onboard LAN2 Option ROM is Disabled.

VGA Priority

This feature selects the priority between the onboard and first offboard video device that has been detected. The options are Onboard and Offboard.

Network Stack

Select Enabled enable PXE (Preboot Execution Environment) or UEFI (Unified Extensible Firmware Interface) for network stack support. The options are Enabled and Disabled.

Ipv4 PXE Support (Available when Network Stack is set to Enable)

Select Enabled to enable Ipv4 PXE (Preboot Execution Environment) for boot support. If this feature is set to Disabled, Ipv4 PXE boot option will not be supported. The options are Enabled and Disabled.

Ipv6 PXE Support (Available when Network Stack is set to Enable)

Select Enabled to enable Ipv6 PXE (Preboot Execution Environment) for boot support. If this feature is set to Disabled, Ipv6 PXE boot option will not be supported. The options are Enabled and Disabled.

ACPI Settings

High Precision Event Timer

Select Enabled to activate the High Performance Event Timer (HPET) that produces periodic interrupts at

a much higher frequency than a Real-time Clock (RTC) does in synchronizing multimedia streams, providing smooth playback and reducing the dependency on other timestamp calculation devices, such as an x86 RDTSC Instruction embedded in the CPU. The High Performance Event Timer is used to replace the 8254 Programmable Interval Timer. The options are Enabled and Disabled.

WHEA Support

This feature Enables the Windows Hardware Error Architecture (WHEA) support for the Windows 2008 (or a later vision) operating system. The options are Enabled and Disabled.

Intel Server Platform Services Configuration

The following status information for this motherboard are displayed:

ME (Management Engine) BIOS Interface Version

SPS Version

ME FW (Firmware) Status Value

ME FW State

ME FW Operation State

ME FW Error Code

ME NM FW Status Value

BIOS Booting Mode

Cores Disabled

ME FW SKU Information

End-of-POST Status

Super IO Configuration

Super IO Chip NCT6776F

Serial Port 1 Configuration

Serial Port

Select Enabled to enable the onboard serial port. The options are Enabled and Disabled.

Change Port 1 Settings

This feature specifies the base I/O port address and the Interrupt Request address of Serial Port 1. Select Auto to let the BIOS automatically assign the base I/O and IRQ address. The options for Serial Port 1 are Auto, (IO=3F8h; IRQ=4) (IO=3F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12), (IO=2F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12), (IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12) and (IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12).

Serial Port 2 Configuration

SOL Serial Port

Select Enabled to use Serial Port 2 as a SOL (Serial_Over_LAN) Serial Port for remote console support. The options are Enabled and Disabled.

SOL Change Settings

This feature specifies the base I/O port address and the Interrupt Request address of SOL Serial Port. Select Auto to let the BIOS automatically assign the base I/O and IRQ address. The options for Serial Port 2 are Auto, (IO=2F8h; IRQ=3), (IO=3F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12), (IO=2F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12), (IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12) and (IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12).

Serial Port 2 Attribute

Select SOL to designate Serial Port 2 as a Serial_Over_LAN port to be used for remote console redirection. The options for Serial Port 2 are SOL and COM.

Console Redirection Settings

This feature allows the user to specify how the host computer will exchange data with the client computer, which is the remote computer used by the user.

Terminal Type

This feature allows the user to select the target terminal emulation type for Console Redirection. Select VT100 to use the ASCII Character set. Select VT100+ to add color and function key support. Select ANSI to use the Extended ASCII Character Set. Select VT-UTF8 to use UTF8 encoding to map Unicode characters into one or more bytes. The options are ANSI, VT100, VT100+, and VT-UTF8.

Bits Per second

Use this feature to set the transmission speed for a serial port used in Console Redirection. Make sure that the same speed is used in the host computer and the client computer. A lower transmission speed may be required for long and busy lines. The options are 9600, 19200, 38400, 57600 and 115200 (bits per second).

Data Bits

Use this feature to set the data transmission size for Console Redirection. The options are 7 Bits and 8 Bits.

Parity

A parity bit can be sent along with regular data bits to detect data transmission errors. Select Even if the parity bit is set to 0, and the number of 1's in data bits is even. Select Odd if the parity bit is set to 0, and the number of 1's in data bits is odd. Select None if you do not want to send a parity bit with your data bits in transmission. Select Mark to add a mark as a parity bit to be sent along with the data bits. Select Space to add a Space as a parity bit to be sent with your data bits. The options are None, Even, Odd, Mark and Space.

Stop Bits

A stop bit indicates the end of a serial data packet. Select 1 Stop Bit for standard serial data communication. Select 2 Stop Bits if slower devices are used. The options are 1 and 2.

Flow Control

This feature allows the user to set the flow control for Console Redirection to prevent data loss caused

by buffer overflow. Send a “Stop” signal to stop sending data when the receiving buffer is full. Send a "Start" signal to start sending data when the receiving buffer is empty. The options are None and Hardware RTS/CTS.

VT-UTF8 Combo Key Support

Select Enabled to enable VT-UTF8 Combination Key support for ANSI/VT100 terminals. The options are Enabled and Disabled.

Recorder Mode

Select Enabled to capture the data displayed on a terminal and send it as text messages to a remote server. The options are Disabled and Enabled.

Resolution 100x31

Select Enabled for extended-terminal resolution support. The options are Disabled and Enabled

Legacy OS Redirection Resolution

Use this feature to select the number of rows and columns used in Console Redirection for legacy OS support. The options are 80x24 and 80x25.

Putty KeyPad

This feature selects Function Keys and KeyPad settings for Putty, which is a terminal emulator designed for the Windows OS. The options are VT100, LINUX, XTERMR6, SC0, ESCN, and VT400.

Redirection After BIOS Post

Use this feature to enable or disable legacy console redirection after BIOS POST. When set to Bootloader, legacy console redirection is disabled before booting the OS. When set to Always Enable, legacy console redirection remains enabled when booting the OS. The options are

Always Enable and Bootloader.

Serial Port for Out-of-Band Management/Windows Emergency Management

The submenu allows the user to configure Console Redirection settings to support Out-of-Band Serial Port management.

Console Redirection (for EMS)

Select Enabled to use a COM Port selected by the user for Console Redirection. The options are Enabled and Disabled.

Console Redirection Settings (for EMS)

This feature allows the user to specify how the host computer will exchange data with the client computer, which is the remote computer used by the user.

Out-of-Band Management Port

The feature selects a serial port used by the Microsoft Windows Emergency Management Services (EMS) to communicate with a remote server. The options are COM1 and COM2.

Terminal Type

This feature allows the user to select the target terminal emulation type for Console Redirection. Select VT100 to use the ASCII character set. Select VT100+ to add color and function key support. Select ANSI to use the extended ASCII character set. Select VT-UTF8 to use UTF8 encoding to map Unicode characters into one or more bytes. The options are ANSI, VT100, VT100+, and VT-UTF8.

Bits Per Second

This item sets the transmission speed for a serial port used in Console Redirection. Make sure that the same speed is used in the host computer and the client computer. A lower transmission speed may be required for long and busy lines. The options are 9600, 19200, 57600, and 115200 (bits per second).

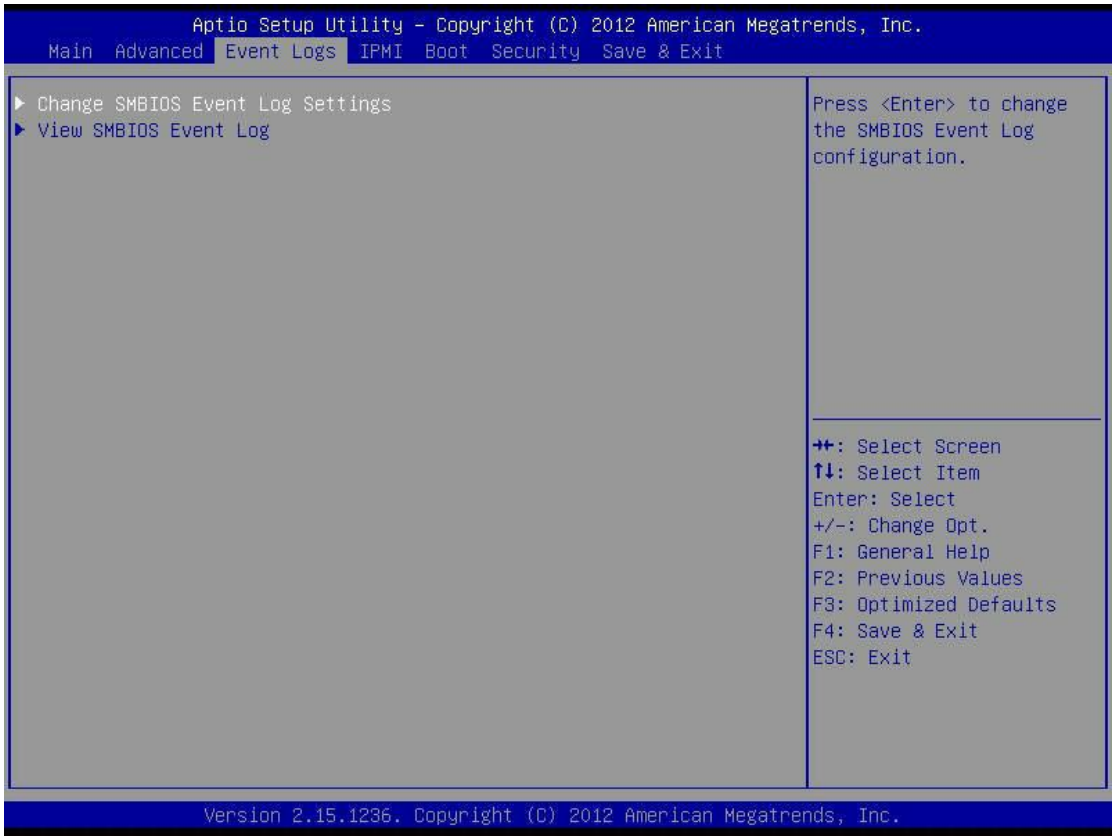
Flow Control

This feature allows the user to set the flow control for Console Redirection to prevent data loss caused by buffer overflow. Sending data when the receiving buffer is full. Send a "Start" signal to start sending data when the receiving buffer is empty. The options are None, Hardware RTS/CTS, and Software Xon/Xoff.

Data Bits, Parity, Stop Bits

The status of each item above is displayed.

Event Logs



Change SMBIOS Event Log Settings

Enabling/Disabling Options

SMBIOS Event Log

Change this item to enable or disable all features of the SMBIOS Event Logging during system boot. The options are Enabled and Disabled.

Erasing Settings

Erase Event Log

If No is selected, data stored in the event log will not be erased. Select Yes, Next Reset, data in the event log will be erased upon next system reboot. Select Yes, Every Reset, data in the event log will be erased upon every system reboot. The options are No, Yes, Next reset, and Yes, Every reset.

When Log is Full

Select Erase Immediately for all messages to be automatically erased from the event log when the event log memory is full. The options are Do Nothing and Erase Immediately.

SMBIOS Event Long Standard Settings

Log System Boot Event

This option toggles the System Boot Event logging to enabled or disabled. The options are Disabled and Enabled.

MECI

The Multiple Event Count Increment (MECI) counter counts the number of occurences a duplicate event must happen before the MECI counter is incremented. This is a numeric value. The default value is 1.

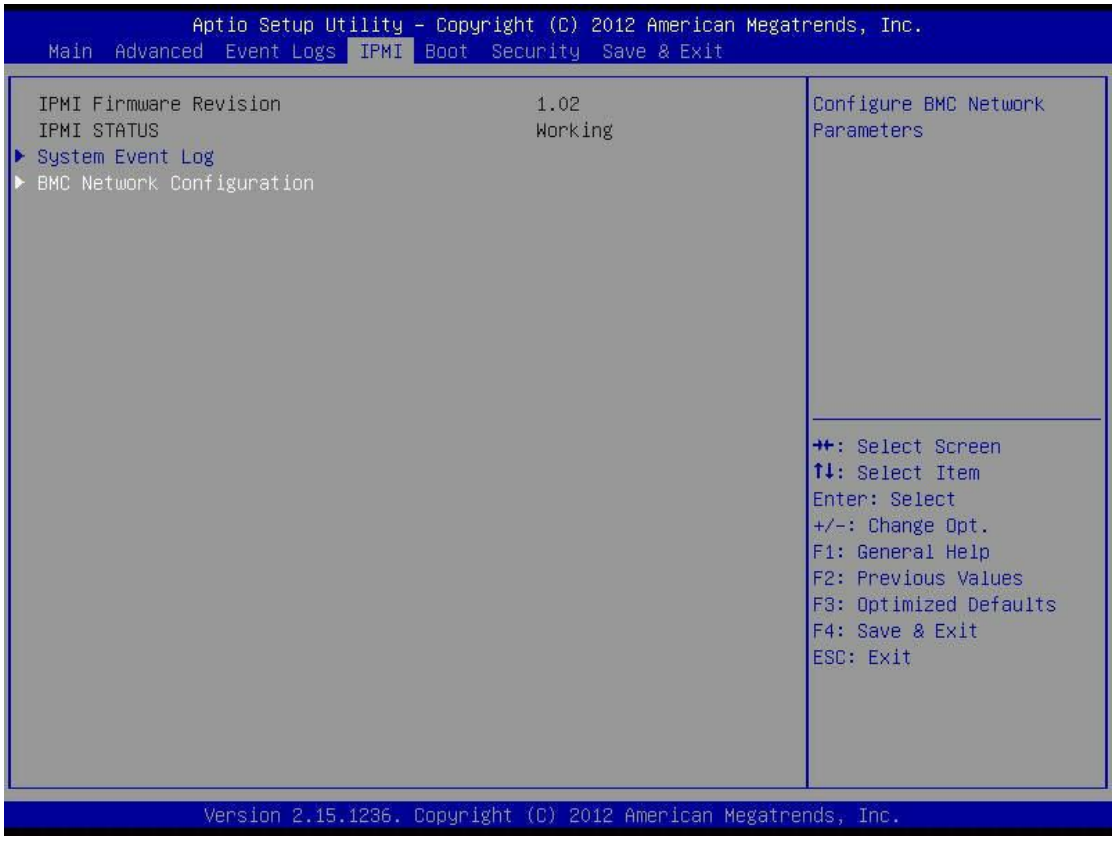
METW

The Multiple Event Time Window (METW) defines number of minutes must pass between duplicate log events before MECI is incremented. This is in minutes, from 0 to 99. The default value is 60.

View SMBIOS Event Log

This section displays the contents of the SMBIOS Event Log.

IPM



The following IPMI information will be displayed:

IPMI Firmware Revision

IPMI Status

System Event Log

This feature is used to change the System Event Log (SEL) configuration.

SEL Components - Change this item to enable or disable all features of System Event Logging. The options are Enabled and Disabled. When this feature is set to Enabled, the following can be configured:

Erase SEL - This option erases all logged SEL events. The options are No, Yes, On Next reset and Yes, On Every reset.

When SEL Full

This option automatically clears the System Event Log memory of all messages when it is full. The options are Do Nothing and Erase Immediately.

BMC Network Configuration

LAN Channel 1: This feature allows the user to configure the settings for LAN1 port.

Update IPMI LAN Configuration

This feature allows the BIOS to implement any IP/MAC address changes at the next system boot. If the option is set to Yes, any changes made to the settings below will take effect when the system is rebooted. The options are No and Yes.

Configuration Address Source

This feature allows the user to select the source of the IP address for this computer. If Static is selected, you will need to know the IP address of this computer and enter it to the system manually in the field. If DHCP is selected, the BIOS will search for a DHCP (Dynamic Host Configuration Protocol) server in the network that is attached to and request the next available IP address for this computer. The options are DHCP and Static. The following items are assigned IP addresses automatically if DHCP is selected, or can be configured manually if Static is selected.

Station IP Address

This item displays the Station IP address for this computer. This should be in decimal and in dotted quad form (i.e., 192.168.10.253).

Subnet Mask

This item displays the sub-network that this computer belongs to. The value of each three-digit number separated by dots should not exceed 255.

Station MAC Address

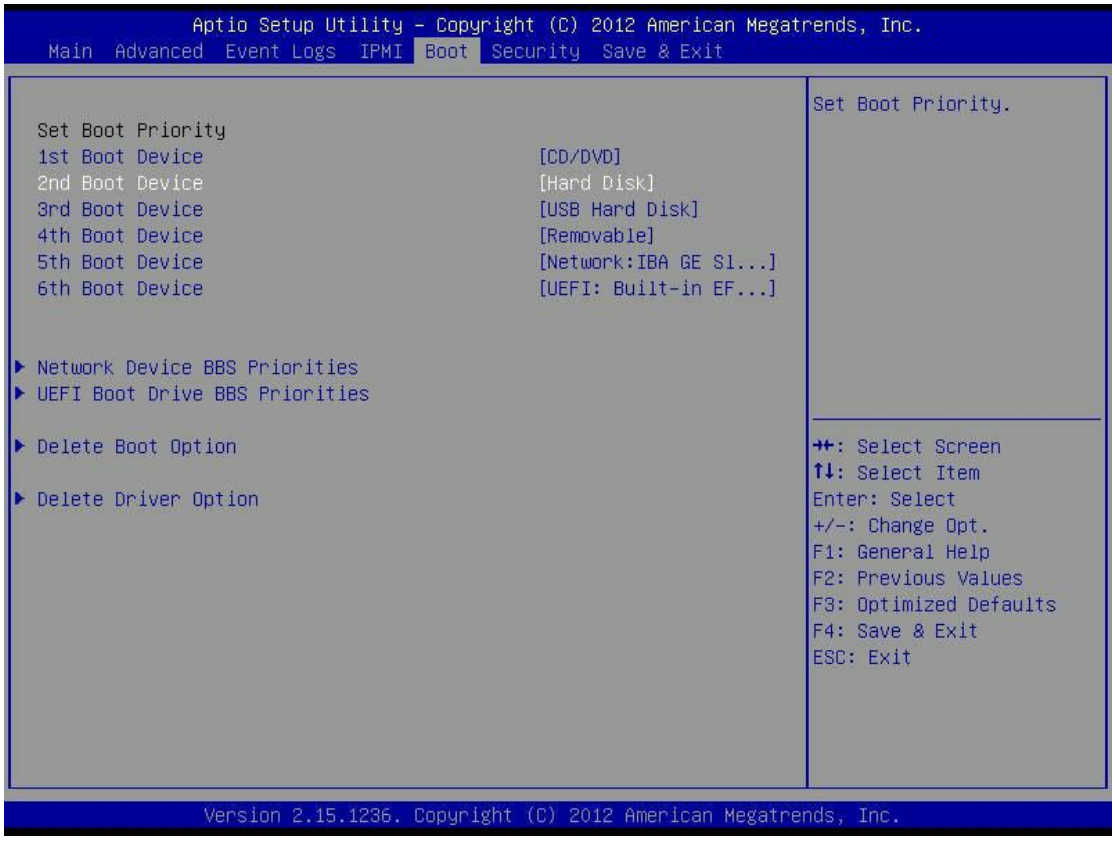
This item displays the Station MAC address for this computer. Mac addresses are 6 two-digit hexadecimal numbers.

Gateway IP Address

This item displays the Gateway IP address for this computer. This should be in decimal and in dotted quad form (i.e., 192.168.10.253).

Boot Settings

Use this feature to configure Boot Settings：



Set Boot Priority

This option prioritizes the order of bootable devices that the system to boot from. Press [ENTER] on each entry from top to bottom to select devices.

1st Boot Device

2nd Boot Device

3rd Boot Device

4th Boot Device

5th Boot Device

6th Boot Device

Network Device BBS Priorities

UEFI Boot Drive BBS Priorities

This feature allows the user to specify which devices are boot devices and appear as boot devices to the system. The settings are \[any detected boot device] and Disabled.

Delete Boot Option

This feature allows the user to delete a previously defined boot device from which the system boots during startup.

The settings are [any pre defined boot device]

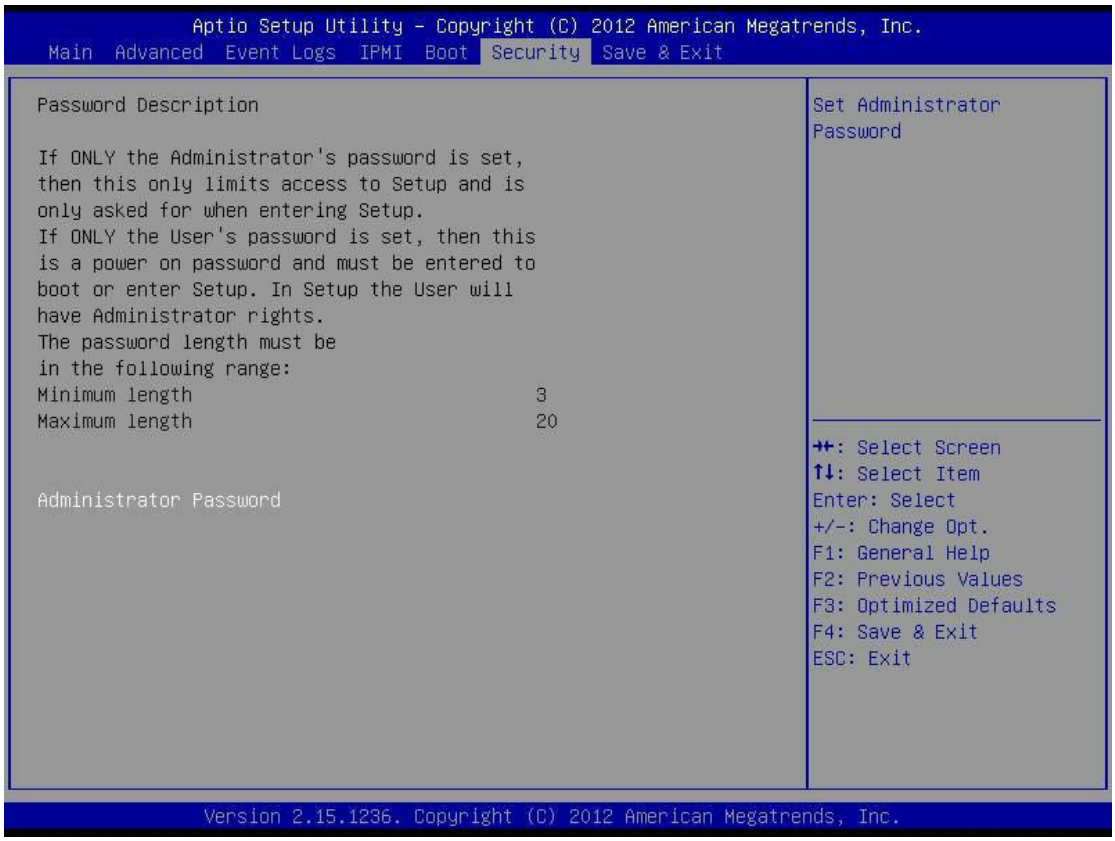
Delete Driver Option

This feature allows the user to delete a previously defined boot device from which the systems boots during startup.

The settings are [any pre defined boot device]

Security Settings

This menu allows the user to configure the following security settings for the system.



If the Administrator password is defined ONLY- this controls access to the BIOS setup ONLY.

If the User's password is defined ONLY – this password will need to be entered upon each system boot, and will also have Administrator rights in the setup.

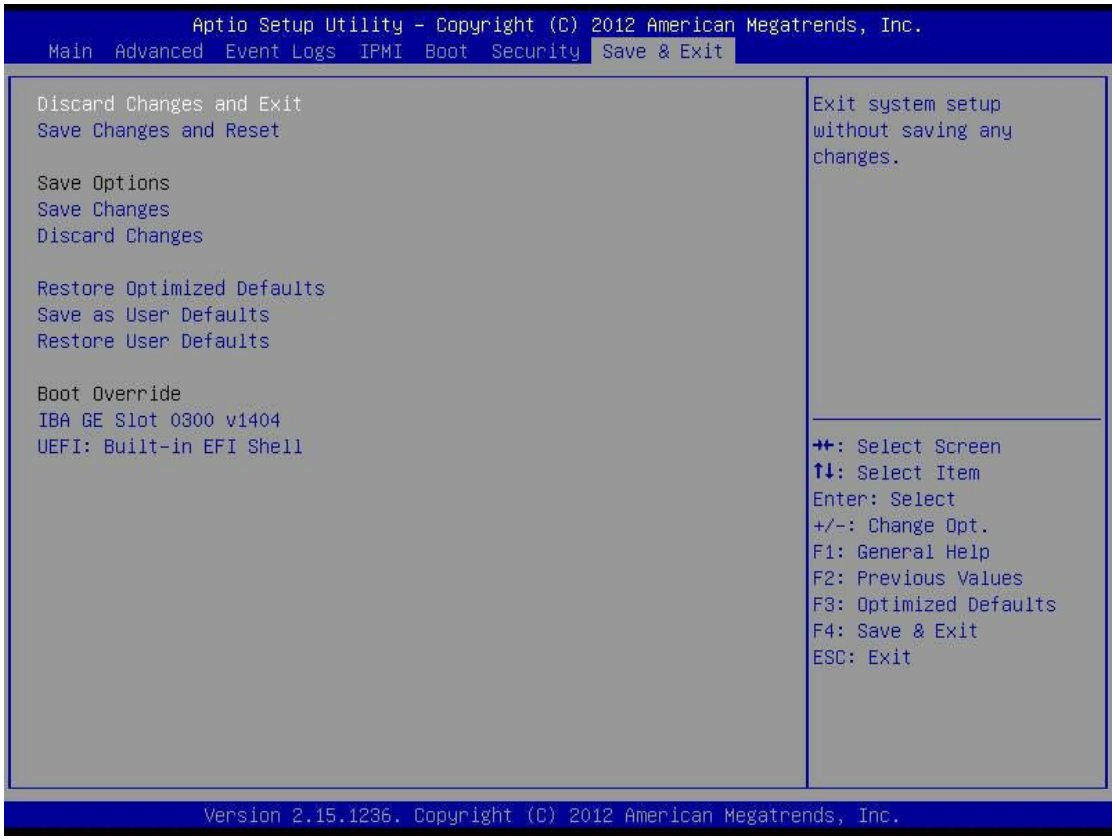
Passwords must be at least 3 and up to 20 characters long.

Administrator Password

Press Enter to create a new, or change an existing Administrator password.

Save & Exit

Select the Exit tab from the BIOS Setup Utility screen to enter the Exit BIOS Setup screen.



Discard Changes and Exit

Select this option to quit the BIOS Setup without making any permanent changes to the system configuration, and reboot the computer. Select Discard Charges and Exit from the Exit menu and press <Enter>.

Save Changes and Reset

When you have completed the system configuration changes, select this option to leave the BIOS Setup Utility and reboot the computer, so the new system configuration parameters can take effect. Select Save Changed and Exit from the Exit menu and press <Enter>.

Save Options

Save Changes

When you have completed the system configuration changes, select this option to save any changes made. This will not reset (reboot) the system.

Discard Changes

Select this option and press <Enter> to discard all the changes and return to the AMI BIOS Utility Program.

Restore Optimized Defaults

To set this feature, select Restore Defaults from the Exit menu and press <Enter>. These are factory settings designed for maximum system stability, but not for maximum performance.

Save As User Defaults

To set this feature, select Save as User Defaults from the Exit menu and press <Enter>. This enables the user to save any changes to the BIOS setup for future use.

Restore User Defaults

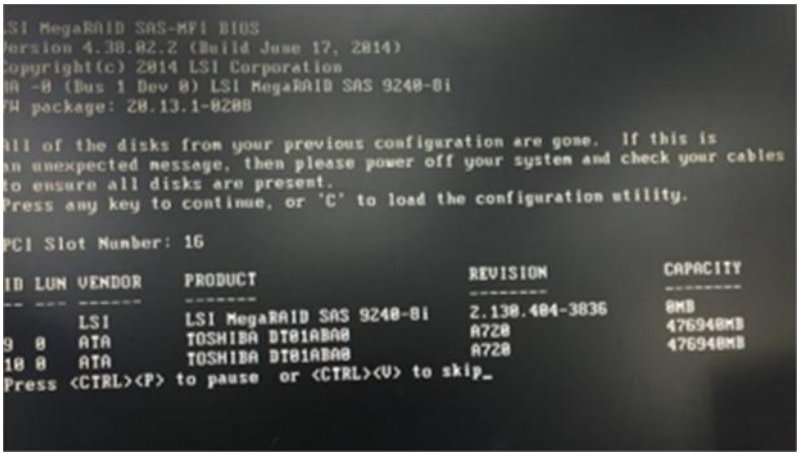
To set this feature, select Restore User Defaults from the Exit menu and press <Enter>. Use this feature to retrieve user-defined settings that were saved previously.

Boot Override

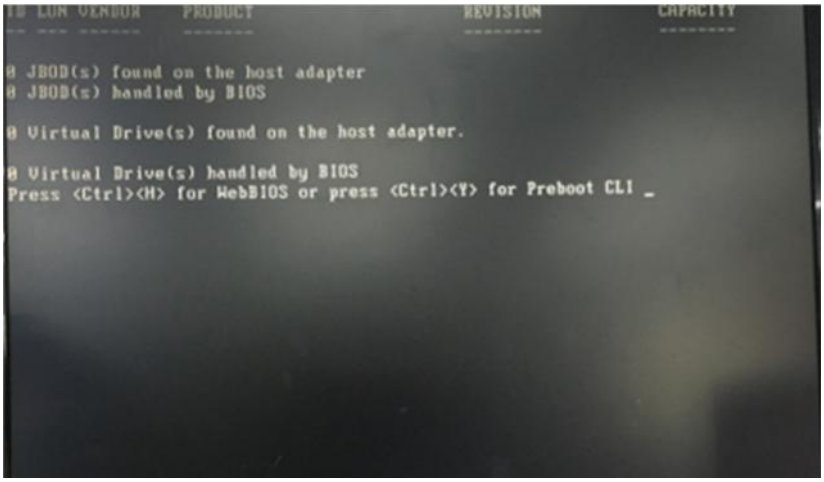
Listed on this section are other boot options for the system (i.e., Built-in EFI shell). Select an option and press <Enter>. Your system will boot to the selected boot option.

Hard Disk Controller Configuration

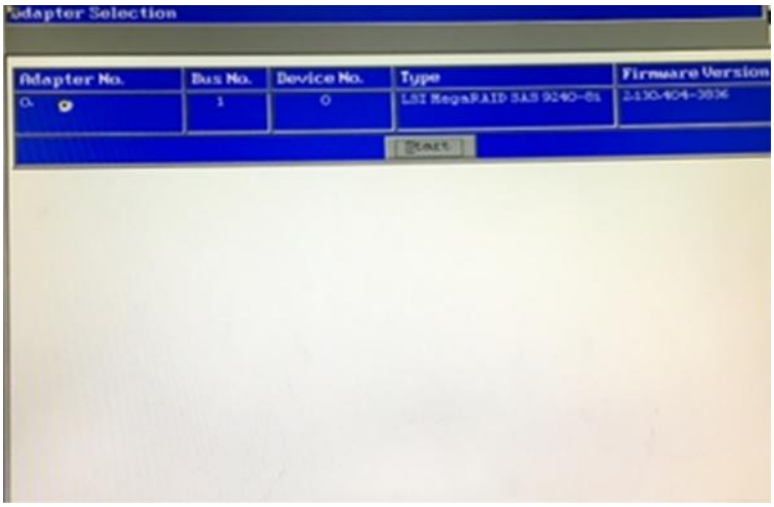
Insert the card into the motherboard, connect the hard disk, and turn it on.



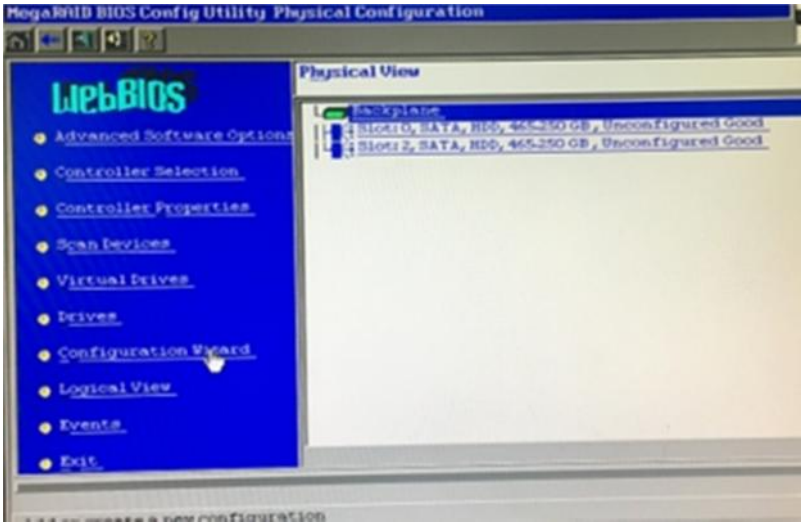
Press Ctrl+H ， Enter the array card settings interface.



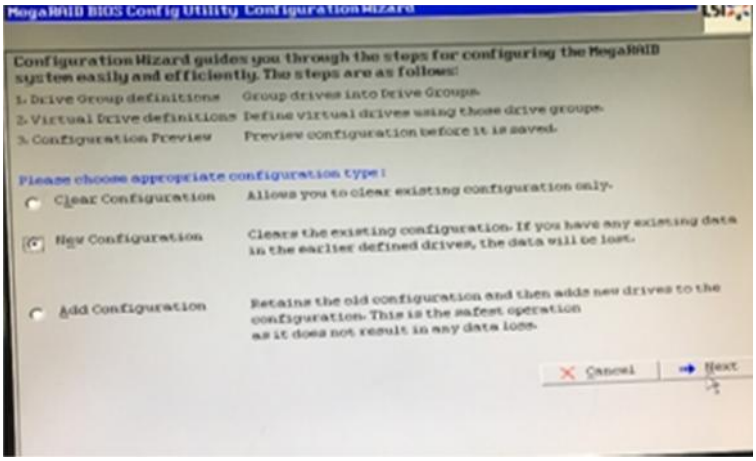
After entering the configuration interface of 9240-8I, click "Start" to start the next step.



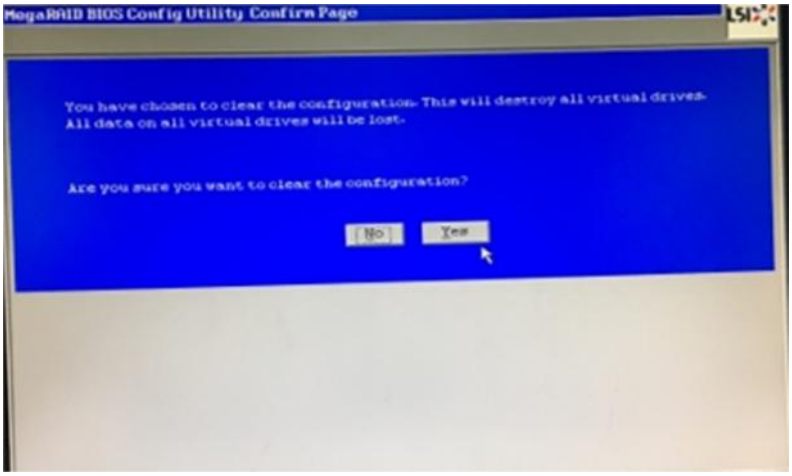
On the right side, you can see the hard disk that has not been configured. Select the "Configuration Wizard" on the left to configure the array card.



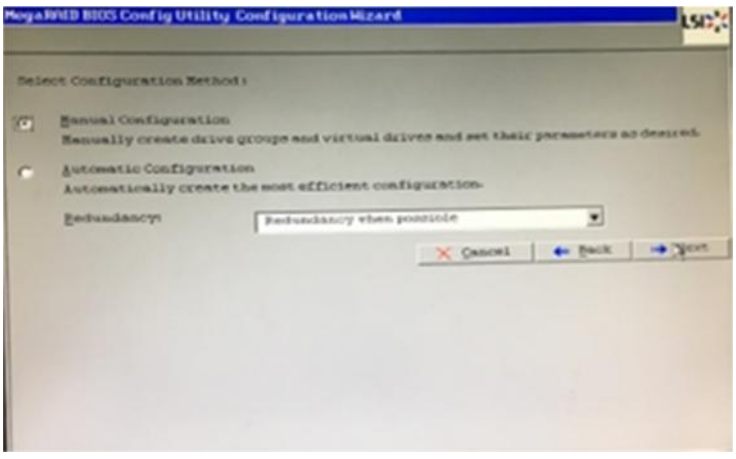
For the first configuration, you can select "New Configuration" or "Add Configuration" to add a new array, then click "Next" next.



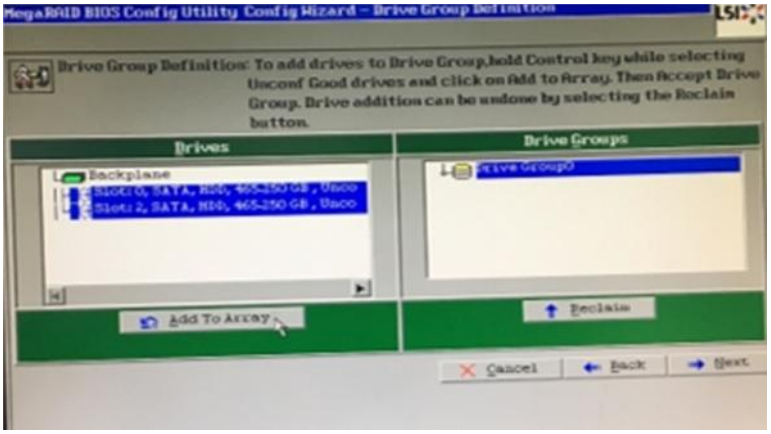
If you select "New Configuration", you will be prompted that the previous settings will be cleared and the data stored on the hard disk will be lost. Select "Yes".



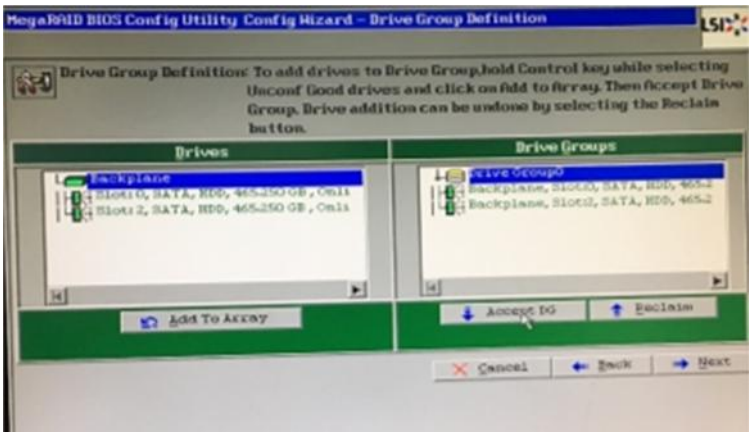
Select Manually add the array "Manual Configuration" and click "Next" to proceed to the next step.



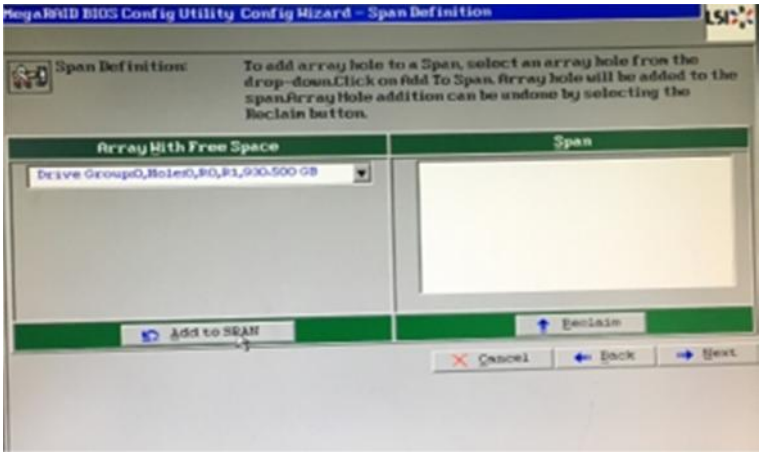
Hold down "Ctrl" and click the left button to select the hard disk that needs to be arrayed, and click "Add To Array".



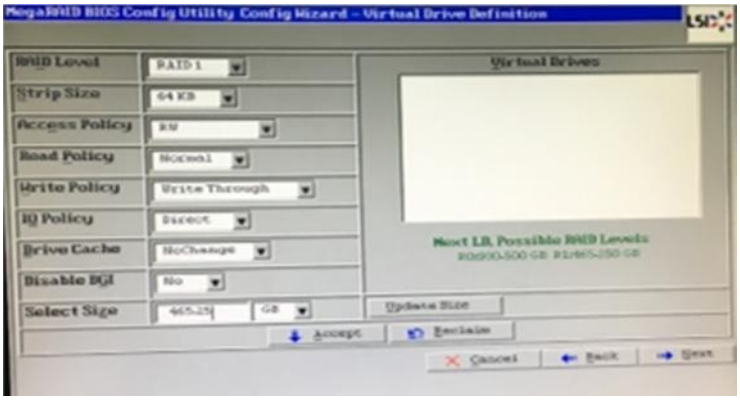
After the hard disk is selected, come to the back option, select "Accept DG", and then click "Next" to proceed to the next step.



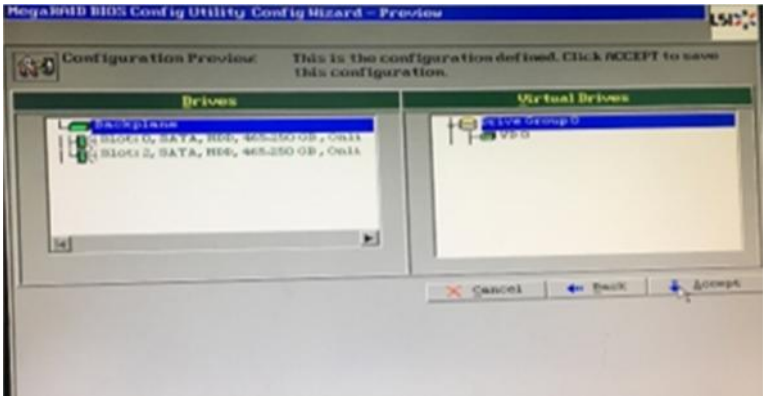
Next select "Add to SPAN" and click "Next" to proceed to the next step.

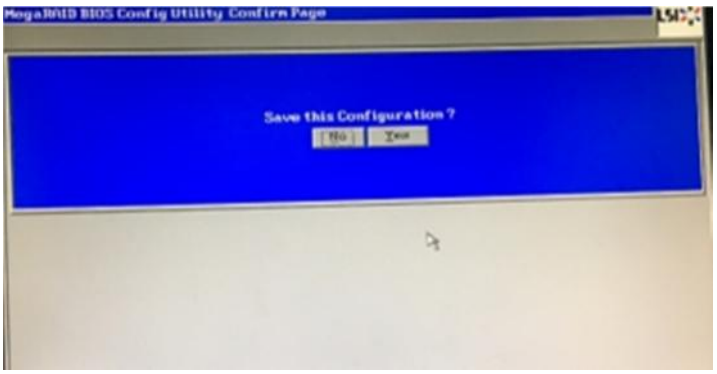


This page has some parameter settings for the array. First select the RAID level you need to do (here, two hard disks, for example, RAID1), and then you can adjust some parameters for reading and writing according to your specific needs. The last array capacity on the left needs to be filled in manually. The green font on the right has a capacity prompt. Fill it out (RAID1 here, capacity is 465.25), then click "Accept". If you change some parameters of disk read and write, we change "Write Policy" to "Always Write Back", the system prompts you to do so, we click "Yes", and then click "Next" to enter the next step.



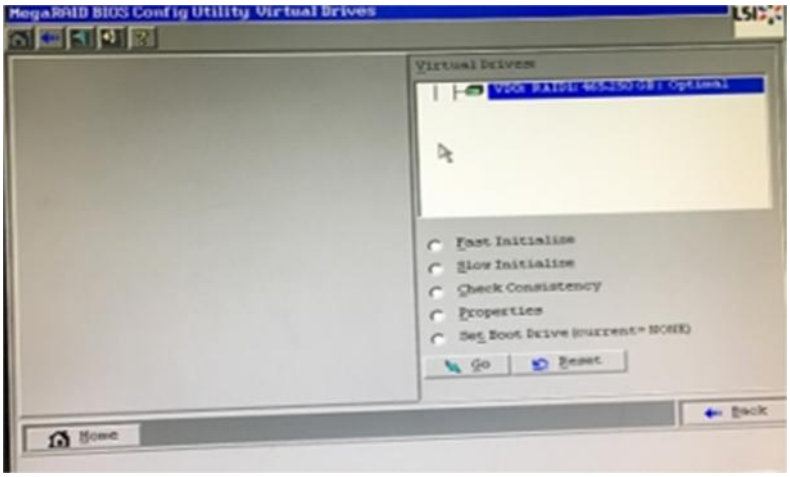
Next click on "Accept" and when you are asked if you want to save the array's interface, select "Yes".



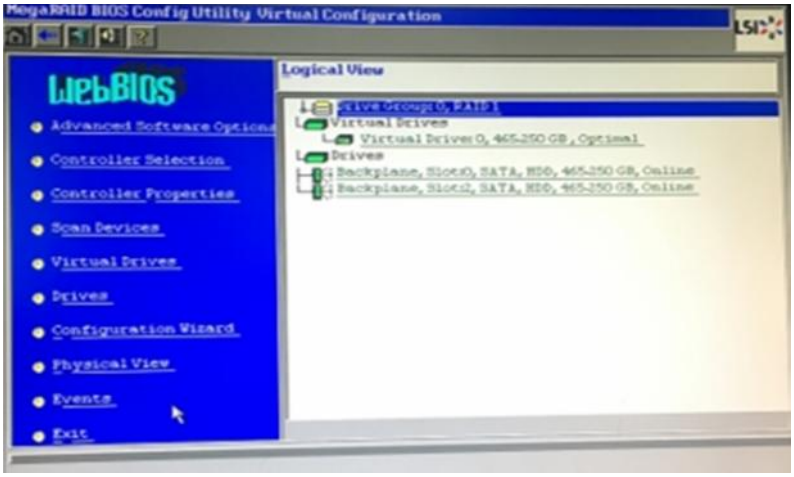


Prompt you for fast initialization or slow initialization and other options, the general test chooses to quickly initialize Fast, normally select Slow to initialize Slow, and then select "GO" for initialization. Finally, the data will be

initialized again. If it is initialized, select "Yes".



After the initialization, select "Home" to return to the array settings home page, you will see that the array has been created successfully; select the Exit option to exit, and then restart. After lighting up the machine again, we will see that the array has been created.



Troubleshooting

Troubleshooting Procedures

Use the following procedures to troubleshoot your system. If you have followed all of the procedures below and still need assistance, please contact your distributor. Always disconnect the AC power cord before adding, changing or installing any hardware components.

Before Power On

1. Make sure that the Onboard Power LED is not on. (Note: If it is on, the onboard power is on. Be sure to unplug the power cable before installing or removing the components.)
2. Make sure that there are no short circuits between the motherboard and chassis.
3. Disconnect all ribbon/wire cables from the motherboard, including those for the keyboard and mouse. Also, be sure to remove all add-on cards.
4. Install a CPU and heatsink (-be sure that it is fully seated) and then connect the chassis speaker and the power LED to the motherboard. Check all jumper settings as well.

No Power

1. Make sure that there are no short circuits between the motherboard and chassis.
2. Make sure that all jumpers are set to their default positions.
3. Check if the 115V/230V switch on the power supply is properly set.
4. Turn the power switch on and off to test the system.
5. The battery on your motherboard may be old. Check to make sure that it still supplies ~3VDC. If it does not, replace it with a new one.

No Video

1. If the power is on, but you have no video--in this case, you will need to remove all the add-on cards and cables first.
2. Use the speaker to determine if any beep codes exist. (Refer to Appendix A for details on beep codes.)
3. Remove all memory modules and turn on the system. (If the alarm is on, check the specifications of memory modules, reset the memory or try a different one.)

Memory Errors

1. Make sure that the DIMM modules are properly installed and fully seated in the slots.
2. You should be using unbuffered ECC DDR3 (1.35V/1.5V) 1600/1333 MHz memory recommended by the manufacturer. Also, it is recommended that you use the memory modules of the same type and speed for all DIMMs in the system. Do not use memory modules of different sizes, different speeds and different types on the same motherboard.
3. Check for bad DIMM modules or slots by swapping modules between slots to see if you can locate the faulty ones.
4. Check the switch of 115V/230V power supply.

Losing the System's Setup Configuration

1. Please be sure to use a high quality power supply. A poor quality power supply may cause the system to lose CMOS setup information.

2. The battery on your motherboard may be old. Check to verify that it still supplies ~3VDC. If it does not, replace it with a new one.

3. If the above steps do not fix the Setup Configuration problem, contact your vendor for repairs.