SD350

UEFI User Guide

1. UEFI Setup Utilities

Using the BIOS Setup Utility

This section describes the BIOS Setup Utility options, which is used to change server configuration defaults. You can run BIOS Setup with or without an operating system being present.

Starting Setup

To enter the BIOS setup screens, follow the steps below:

Step1. Power on the motherboard.

- Step2. Press the <F1> key on your keyboard when you see the following text prompt: Press F1 to run Setup.
- Step3. After you press the <F1> key, the main BIOS setup menu displays. You can access the other setup screens from the main BIOS setup menu,

BIOS Setup Menu

The main BIOS setup menu is the first screen that you can navigate. Each main BIOS setup menu option is described in this user's guide.

The Main BIOS setup menu screen has two main frames. The left frame displays all the options that can be configured. "Grayed-out" options cannot be configured. Options is blue can be.

The right frame displays the key legend. Above 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.

2. UEFI Setup Menu Introduction

1. Main Setup

When you first enter the BIOS Setup Utility, you will enter the Main setup screen. You can always return to the Main setup screen by selecting the Main tab. There are two Main Setup options. They are described in this section. The Main BIOS Setup screen is shown below

| Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc. Main Advanced IntelRCSetup Server Mgmt Security Boot Save & Exit | | | |
|--|---|---|--|
| BIOS Information BIOS Vendor Core Version Compliancy Project Version Build Date and Time Access Level | American Megatrends 5.11 UEFI 2.4; PI 1.3 SD350 3.46 05/31/2016 19:03:12 Administrator | Displays Processor Information | |
| Memory Information Total Memory ▶ Processor Information ▶ Memory Information | 49152 MB | →+↑↓: Move Enter: Select and enter subsystem | |
| System Date System Time | [Sat 01/01/2000] [06:36:08] | Fi: General Help F2: Previous Values F9: Optimized Defaults F10: Save & Exit Setup | |

| Item | Option | description |
|---------------------|-----------|--|
| BIOS Information | | |
| BIOS Vendor | Read only | Display BIOS vendor |
| Core Version | Read only | Display System BIOS Core version information |
| Compliancy | Read only | Display BIOS compliancy information |
| Project Version | Read only | Display BIOS version information |
| Build Date and Time | Read only | Display System BIOS build date and time |

| Memory Information | | |
|--------------------|-------------------|----------------------------|
| Total Memory | Read only | Display total memory size |
| System Date | DAY MM/DD/YYYY | Set system date |
| System Time | XX:XX:XX | Set system time |
| Access Level | Read only | Display the current access |

2. Advanced

Select the Advanced tab from the BIOS setup screen to enter the Advanced BIOS Setup screen.

You can display an Advanced BIOS Setup option by highlighting it using the <Arrow> keys. All Advanced BIOS Setup options are described in this section.

The Advanced BIOS Setup screen is shown below. The sub menus are described on the following pages

| Aptio Setup Utility – Copyright (C) 2016 Amer Main Advanced IntelRCSetup Server Mgmt Secur | ican Megatrends, Inc. ity Boot Save & Exit |
|---|--|
| ASSET Number Password Check ASSET Number 0000000000000000000 ACPI Settings AST2400 Super IO Configuration Serial Port Console Redirection PCI Subsystem Settings UEFI Network Stack Configuration CSM Configuration | If user want to modify the ASSET Number, please Confirm Password first. |
| Info Report Configuration UEFI iSCSI Configuration | <pre>++f↓: Move Enter: Select and enter subsystem +/-: Add and reduce value ESC: Exit F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save & Exit Setup</pre> |
| Version 2.17.1249. Copyright (C) 2016 Americ | an Megatrends, Inc. |

| Item | Option | description |
|-------------------------------------|--------|---------------------|
| ACPI Settings | | See the table below |
| AST2400 Super IO Configuration | | See the table below |
| Serial Port Console Redirection | | See the table below |
| PCI Subsystem Settings | | See the table below |
| UEFI Network stack Configuration | | See the table below |
| CSM Configuration | | See the table below |
| USB Configuration | | See the table below |
| Info Report Configuration | | See the table below |
| iSCSI Configuration | | See the table below |

2.1 ACPI Settings

| Aptio Setup Utilit Advanced | y – Copyright (C) 20 | 016 American Megatrends, Inc. |
|---|----------------------|--|
| ACPI Settings | | Enables or Disables BIOS ACPI Auto |
| Enable ACPI Auto Configuration | [Disabled] | Configuration. |
| Lock Legacy Resources | [Disabled] | |
| | | |
| | | ↔+↑↓: Move Enter: Select and enter |
| | | subsystem +/-: Add and reduce value |
| | | F1: General Help F2: Previous Values |
| | | F9: Optimized Defaults F10: Save & Exit Setup |
| Version 2.17.1249. Copyright (C) 2016 American Megatrends, Inc. | | |

| Item | Option | description |
|-----------------------|------------|------------------------------------|
| Enable ACPI Auto | [Disabled] | Enables or Disables BIOS ACPI Auto |
| Configuration Enab | Enabled | Configuration. |
| | [Disabled] | Enables or Disables Lock of Legacy |
| Lock Legacy Resources | Enabled | Resources |

2.2 AST2400 Super IO Configuration

| Aptio Setup Utility – Copyright (C) 2016 Advanced | American Megatrends, Inc. | |
|--|--|--|
| AST2400 Super IO Configuration Super IO Chip AST2400 ▶ Serial Port 1 Configuration | Set Parameters of Serial Port 1 (COMA) | |
| | <pre>++↑↓: Move Enter: Select and enter subsystem +/-: Add and reduce value ESC: Exit F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save & Exit Setup</pre> | |
| Version 2.17.1249. Copyright (C) 2016 American Megatrends, Inc. | | |

| Item | Option | description |
|---------------|--------|--|
| Serial Port 1 | | Set Parameters of Serial Port 1 (COMA) |
| Configuration | | |

2.3 Serial Port Console Redirection

| Aptio Setup Utility – Copyright (C) 2016 Ame Advanced | rican Megatrends, Inc. |
|--|--|
| COM1 Console Redirection [Enabled] Console Redirection Settings Legacy Console Redirection Legacy Console Redirection Settings Serial Port for Out-of-Band Management/ Windows Emergency Management Services (EMS) | Console Redirection Enable or Disable. |
| Console Redirection [Disabled] • Console Redirection Settings | <pre>++↑↓: Move Enter: Select and enter subsystem +/-: Add and reduce value ESC: Exit F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save & Exit Setup</pre> |
| Version 2.17.1249. Copyright (C) 2016 Americ | can Megatrends, Inc. |

| Item | Option | description |
|-------------------------------|-----------|--|
| Console Redirection [Enabled] | Disabled | |
| | [Enabled] | Console Redirection Enable or Disable. |

2.4 PCI Subsystem Settings

| Aptio Setup Utili Advanced | ty – Copyright (C) 2016 Am | herican Megatrends, Inc. |
|--|--|--|
| PCI Bus Driver Version | A5.01.05 | Value to be programmed into PCI Latency Timer Register. |
| PCI Devices Common Set | ttings: | |
| PCI Latency Timer PCI-X Latency Timer VGA Palette Snoop PERR# Generation SERR# Generation Above 4G Decoding SR-IOV Support PCI Express Settings | [32 PCI Bus Clocks] [64 PCI Bus Clocks] [Disabled] [Disabled] [Disabled] [Disabled] [Disabled] | <pre>++1↓: Move Enter: Select and enter subsystem</pre> |
| | | +/-: Add and reduce value |
| ▶ PCI Express GEN 2 Set | tings | ESC: Exit F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save & Exit Setup |

| Item | Option | description |
|---------------------|-----------------------|---|
| PCI Latency Timer | 32 PCI Bus Clocks | Value to be programmed into PCI Latency Timer Register. |
| PCI-X Latency Timer | 64 PCI Bus Clocks | Value to be programmed into PCI-X Latency Timer Register. |
| VGA Palette Snoop | [Disabled] Enabled | Enables or Disables VGA <u>Palette</u> Registers Snooping. |
| PERR# Generation | [Disabled] Enabled | Enables or Disables PCI Device to Generate PERR#. |
| SERR# Generation | [Disabled] Enabled | Enables or Disables PCI Device to Generate SERR#. |

| Above 4G Decoding | [Disabled] Enabled | Enables or Disables 64bit capable Devices to be Decoded in Above 4G Address Space (Only if System Supports 64 bit PCI Decoding). |
|-------------------|-----------------------|---|
| SR-IOV Support | [Disabled] Enabled | Enable or disable the SR-IOV support |

2.5 UEFI Network stack Configuration

| Aptio Setup Utility Advanced | – Copyright (C) 2016 Ameri | can Megatrends, Inc. |
|---|----------------------------------|---|
| Network Stack Ipv4 PXE Support Ipv6 PXE Support PXE boot wait time Media detect count | [Enabled] [Enabled] 0 1 | Enable/Disable UEFI Network Stack ++fl: Move Enter: Select and enter subsystem +/-: Add and reduce value ESC: Exit F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save & Exit Setup |

| Item | Option | description |
|----------------------------|----------------------|---|
| | Disabled | Enable (Disable UEE) Natwork Stack |
| NELWORK SLACK | [Enabled] | Enable/Disable CEFT Network Stack |
| Inva DVE Support | Disabled | Enable Ipv4 PXE Boot Support. If disabled |
| IPV4 PXE Support | [Enabled] | IPV4 PXE boot option will not be created |
| Ipv6 PXE Support [Enabled] | Disabled | Enable Ipv4 PXE Boot Support. If disabled |
| | [Enabled] | IPV6 PXE boot option will not be created |
| DVE boot wait time | PXE boot wait time 0 | Wait time to press ESC key to abort the |
| PAE DOOL WAIL LITTLE | | PXE boot |
| Media detect count | 1 | Number of times presence of media will |
| | | be checked |

2.6 CSM Configuration

| Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc. Advanced | | | |
|--|---|---|--|
| Compatibility Support M | odule Configuration | Enable/Disable CSM | |
| CSM Support | [Enabled] | | |
| CSM16 Module Version | 07.79 | | |
| GateA20 Active Option ROM Messages | [Always] [Force BIOS] | | |
| Boot option filter | [UEFI and Legacy] | →+↑↓: Move | |
| Option ROM execution | | Enter: Select and enter subsystem | |
| Network Storage Video Other PCI devices i350 OPRom Select | (UEFI) [Legacy] [Legacy] [UEFI] [PXE] | +/-: Add and reduce value ESC: Exit F1: General Help F2: Previous Values F9: Optimized Defaults | |

| Item | Option | description |
|---------------------|-------------------|--|
| CSM Support | Disabled | Enable/Disable CSM Support. |
| | [Enabled] | , |
| | | UPON REQUEST - GA20 can be |
| | Linon Request | disabled using BIOS services. ALWAYS - |
| GateA20 Active | | do not allow disabling GA20; this |
| | [Always] | option is useful when any RT code is |
| | | executed above 1MB. |
| | [Force BIOS] | Sat display made for Option DOM |
| Option Rolw Wessage | Keep Current | Set display mode for Option ROM |
| | [UEFI and Legacy] | This option controls Lagory (UEF) |
| Boot option filter | Legacy only | POMs priority |
| | UEFI only | KOWIS PHOLICY |
| | Do not launch | Controls the execution of LIEFL and |
| Network | [UEFI] | |
| | Legacy | |
| Storage | Do not launch | Controle the evention of UEEL and |
| | UEFI | Controls the execution of UEFI and |
| | [Legacy] | |

| Video | Do not launch UEFI [Legacy] | Controls the execution of UEFI and Legacy Video OpROM |
|-------------------|-----------------------------------|---|
| Other PCI device | [UEFI] Legacy | Determines OpROM execution policy for devices other than Network, Storage, or Video |
| I350 OPRom Select | [PXE] iSCSI | Determines i350 OPRom execution policy for PXE or iSCSI |

2.7 USB Configuration

| Aptio Setup Utility Advanced | ∣ – Copyright (C) 2016 Ameri | can Megatrends, Inc. |
|--|--|--|
| USB Configuration | | USB Support Parameters |
| USB Module Version | 11 | |
| USB Controllers: 2 EHCIs, 1 XHCI USB Devices: 3 Drives, 2 Keybo | ards, 1 Mouse, 3 Hubs | |
| USB Support Legacy USB Support XHCI Hand-off EHCI Hand-off USB Mass Storage Driver Support Port 60/64 Emulation USB hardware delays and time-outs: | [Enabled] [Enabled] [Disabled] [Enabled] [Enabled] | <pre>→+↑↓: Move Enter: Select and enter subsystem +/-: Add and reduce value ESC: Exit F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save & Exit Setup</pre> |

| Item | Option | description |
|--------------------|-----------------------|--|
| USB Support | Disabled | USB Support Parameters |
| | [Enabled] | |
| Legacy USB Support | Disabled [Enabled] | Enables Legacy USB support. AUTO |
| | | option disables legacy support if no |
| | | USB devices are connected. DISABLE |
| | | option will keep USB devices available |
| | | only for EFI applications. |

| | | This is a workaround for OSes without |
|-------------------------|------------|---------------------------------------|
| | Disabled | XHCI hand-off support. The XHCI |
| | [Enabled] | ownership change should be claimed |
| | | by XHCI driver. |
| | | This is a workaround for OSes without |
| EUCI Hand off | [Disabled] | EHCI hand-off support. The EHCI |
| | Enabled | ownership change should be claimed |
| | | by EHCl driver. |
| USB Mass Storage driver | Disabled | Enable/Disable USB Mass Storage |
| Support | [Enabled] | Driver Support |
| | | Enables I/O port 60h/64h emulation |
| Port 60/64 Emulation | Disabled | support. This should be enabled for |
| | [Enabled] | the complete USB keyboard legacy |
| | | support for non-USB aware OSes. |

2.8 Info Report Configuration

| Aptio Setup Utilit Advanced | y – Copyright (C) 20 | 16 American Megatrends, Inc. |
|--------------------------------|----------------------|--|
| Info Report Configurat | ion | Post Report Support Enabled/Disabled |
| Post Report | | |
| Post Report | [Enabled] | |
| Delay Time | [1] | |
| Error Message Report | | |
| Info Error Message | [Enabled] | |
| Summary Screen | | |
| Summary Screen | [Disabled] | <pre>++↑↓: Move Enter: Select and enter subsystem +/-: Add and reduce value ESC: Exit F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save & Exit Setup</pre> |
| Vencion 2 17 1249 | Copupight (C) 2016 | Amonican Magathands Inc |

| Item | Option | description |
|-------------|-----------|---------------------------------------|
| Post Report | Disabled | Post Report Support Enabled/Disabled |
| | [Enabled] | |
| Delay Time | 1 | Post Report Wait Time: 0 ~ 10 Seconds |

| | Disabled | Info Error Message Support | |
|--------------------|------------|----------------------------|--|
| Into Error Wessage | [Enabled] | Enabled/Disabled | |
| Summary Screen | [Disabled] | Summary Screen Support | |
| | Enabled | Enabled/Disabled | |

2.9 iSCSI Configuration

| Aptio Setup Utility – Copyright (C) 2016 f Advanced | American Megatrends, Inc. |
|--|--|
| iSCSI Initiator Name | The worldwide unique |
| ▶ Add an Attempt | Initiator. Only IQN format is accepted. |
| ▶ Delete Attempts | Range is from 4 to 223 |
| ▶ Change Attempt Order | |
| | <pre>→+f↓: Move Enter: Select and enter subsystem +/-: Add and reduce value ESC: Exit F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save & Exit Setup</pre> |
| Version 2.17.1249. Copyright (C) 2016 Ame | erican Megatrends, Inc. |

| Item | Option | description |
|----------------------|--------|---|
| iSCSI Initiator Name | | The worldwide unique name of iSCSI |
| | | Initiator. Only IQN format is accepted. |
| | | Range is from 4 to 223 |

3. IntelRCSetup

Setting items on this Screen to incorrect values may cause system to malfunction!

| Aptio Setup Utility – Copyright (C) 2016 Americ Main Advanced <mark>IntelRCSetup</mark> Server Mgmt Securi | can Megatrends, Inc. ty Boot Save & Exit |
|---|--|
| RC Revision03.02.00Processor ConfigurationAdvanced Power Management ConfigurationCommon RefCode ConfigurationMemory ConfigurationIIO ConfigurationPCH ConfigurationMiscellaneous ConfigurationServer ME Configuration | Displays and provides option to change the Processor Settings |
| Setup Warning: Setting items on this Screen to incorrect values may cause system to malfunction! | <pre>++11: Move Enter: Select and enter subsystem +/-: Add and reduce value ESC: Exit F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save & Exit Setup</pre> |

| Item | Option | description |
|---|--------|--|
| Processor Configuration | | Displays and provides option to change the Processor Settings |
| Advanced Power Management Configuration | | Displays and provides option to change the Power Management Settings |
| Common RefCode Configuration | | Displays and provides option to change the Common RefCode Settings |
| Memory Configuration | | Displays and provides option to change the Memory Settings |
| IIO Configuration | | Displays and provides option to change the IIO Settings |
| PCH Configuration | | Displays and provides option to change the PCH Settings |
| Miscellaneous Configuration | | |

4. Server Mgmt

| Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc. Main Advanced IntelRCSetup <mark>Server Mgmt</mark> Security Boot Save & Exit | | |
|---|--|--|
| BMC Self Test Status BMC Device ID BMC Device Revision BMC Firmware Revision IPMI Version System Time Sync FRB-2 Timer FRB-2 Timer timeout FRB-2 Timer Policy OS Watchdog Timer OS Wtd Timer Timeout OS Wtd Timer Policy System Event Log | PASSED 32 1 1.44 2.0 [Sync with BMC time] [Enabled] [12 minutes] [Do Nothing] [Disabled] [10 minutes] [Reset] | System Time Sync with BMC time ++fl: Move Enter: Select and enter subsystem +/-: Add and reduce value |
| BMC network configurati View System Event Log DNS Configuration BMC Warm Reset | ion | ESC: Exit F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save & Exit Setup |

| Item | Option | description |
|------------------|---|--|
| System Time Sync | [Sync with BMC time] Sync with BIOS time | System Time Sync with BMC time or RTC time. |
| | No sync | |
| FRB-2 Timer | Disabled [Enabled] | Enable or Disable FRB-2 timer(POST timer) |
| FRB-2 Timer | Disabled [Enabled] | Enable or Disable FRB-2 timer(POST timer) |

| | 3 MINUTES | |
|---------------------|--------------|--|
| | 4 MINUTES | |
| FRB-2 Timer timeout | 5 MINUTES | Enter value Between 3 to 12 <u>min</u> for FRB-2 Timer Expiration value |
| | 6 MINUTES | |
| | [12 MINUTES] | |
| | [Do Nothing] | |
| | Reset | respond if the FRB-2 Timer expires. |
| FRB-2 Timer Policy | Power Down | Not available if FRB-2 Timer is |
| | Power Cycle | disabled. |
| | | If enabled, starts a BIOS timer |
| | | which can only be shut off by |
| | [Disabled] | Management Software after the |
| OS Watchdog Timer | | OS loads. Helps determine that |
| | Enabled | the OS successfully loaded or |
| | | follows the OS Boot <u>Watchdog</u> |
| | | Timer policy. |
| | | Press <enter> to change the SEL</enter> |
| System Event Log | | event log configuration. |
| BMC Network | | Configure BMC network |
| Configuration | | parameters |
| DNS configuration | | Configure DNS Configuration |
| BMC Warm Reset | | Press <enter> to do Warm Reset BMC.</enter> |

Note: When user sets bonding mode enabled with BMC web interface, UEFI cannot get a shared NIC IP address, UEFI only can get the dedicated IP address.

5. Security

| Aptio Setup Util. Main Advanced Inte | ity – Copyright (C) 2016 elRCSetup Server Mgmt | American Megatrends, Inc. Security Boot Save & Exit |
|--|---|---|
| Administrator Password User Password Password Description If ONLY the Administ | uninstall uninstall | ▲ Set Administrator Password |
| then this only limit: only asked for when o If ONLY the User's pa is a power on passwoo boot or enter Setup. have Administrator r The password length in the following rang | s access to Setup and is entering Setup. assword is set, then thi rd and must be entered t In Setup the User will ights. must be ge: | s o →+tl: Move Enter: Select and enter subsystem +/-: Add and reduce value |
| Minimum length Maximum length | 3 20 | F1: General Help F2: Previous Values |
| Administrator Passwor User Password | rd | F9: Optimized Defaults ▼ F10: Save & Exit Setup |

| Item | Option | description |
|------------------------|--------|----------------------------|
| Administrator Password | | Set Administrator Password |
| User Password | | Set User Password |

6. Boot

| Aptio Setup Utility – Copyright (C) 2016 American Megatrends, Inc. Main Advanced IntelRCSetup Server Mgmt Security <mark>Boot</mark> Save & Exit | | |
|---|---|--|
| Boot Configuration Setup Prompt Timeout Bootup NumLock State Check controllers health status Network retry count Quiet Boot | 1 [On] [Disabled] [1] [Enabled] | Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting. |
| Boot Option Priorities Boot Option #1 | [UEFI: Built-in EFI Shell] | <pre>→+fl: Move Enter: Select and enter subsystem +/-: Add and reduce value ESC: Exit F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save & Exit Setup</pre> |

| Item | Option | description |
|---------------------------------|-------------------------|--|
| Setup Prompt Timeout | 1 | Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting. |
| Bootup NumLock State | [On] Off | Select the keyboard NumLock state |
| Check Controllers health status | [Disabled] Enabled | Enables or disables checking of health status of hardware components |
| Network retry count | [1] 2 3 Always | Number of times try of all PXE devices |

| | Disabled | |
|------------|-----------|--------------------------------|
| Quiet Boot | Disabled | Enables or disables Quiet Boot |
| | [Enabled] | option |

7. Save & Exit

| Aptio Setup Utility – Copyright (C) 2016 Ameri Main Advanced IntelRCSetup Server Mgmt Securi | can Megatrends, Inc. ty Boot Save & Exit |
|---|--|
| Save Options Save Changes and Reset Discard Changes and Reset | Reset the system after saving the changes. |
| Save Changes Discard Changes | |
| Default Options Restore Defaults Save as User Defaults | |
| Restore User Defaults | ↔fl: Move Enter: Select and enter |
| Boot Override UEFI: Built–in EFI Shell | subsystem +/-: Add and reduce value ESC: Exit F1: General Help F2: Previous Values F9: Optimized Defaults |

| Item | Option | description |
|---------------------------|--------|--|
| 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 the changes done so far as User Defaults. |
| Restore User Defaults | Restore the User Defaults to all the setup options. |

3. Recovery BIOS Function

The BIOS support the boot block to re-flash the main BIOS image when the BIOS is be corrupted and cannot boot to the EFI Shell or operating system to perform a standard update.

Recovery BIOS Step:

Step1. Insert the USB Key (This USB key need include the Recovery ROM file (AMIBOOT.ROM) in).

Step2. Power on the server and wait system into recovery mode in setup menu. Step3. Select "Proceed with flash update" and Enter to start flash update.