ASMB9-iKVM

Server Management Board

User Guide

Contents

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Notices

Federal Communications Commission Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

• This device may not cause harmful interference, and

• This device must accept any interference received including interference that may cause undesired operation.

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 manufacturer's 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 dealer or an experienced radio/TV technician for help.

> The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This class B digital apparatus complies with Canadian ICES-003.

REACH

Complying with the REACH (Registration, Evaluation, Authorization, and Restriction of Chemicals) regulatory framework, we published the chemical substances in our products at ASUS website at http://csr.asus.com/english/REACH.htm.

ASUS Recycling/Takeback Services

ASUS recycling and takeback programs come from our commitment to the highest standards for protecting our environment. We believe in providing solutions for you to be able to responsibly recycle our products, batteries, other components as well as the packaging materials. Please go to http://csr.asus.com/english/Takeback.htm for detailed recycling information in different regions.

DO NOT throw the motherboard in municipal waste. This product has been designed to enable proper reuse of parts and recycling. This symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Check local regulations for disposal of electronic products.

DO NOT throw the mercury-containing button cell battery in municipal waste. This symbol of the crossed out wheeled bin indicates that the battery should not be placed in municipal waste.

Safety information

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the server.

- When adding or removing devices to or from the server, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing server before you add a device.

- Before connecting or removing signal cables from the server, ensure that all power cables are unplugged.

- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.

- Make sure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.

- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

Operation safety

- Before installing any component to the server, carefully read all the manuals that came with the package.

- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.

- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.

- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.

- Place the product on a stable surface.

- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

About this guide

This user guide contains the information you need when installing and configuring the server management board.

How this guide is organized

This guide contains the following parts:

- **Chapter 1: Product Introduction**

  This chapter describes the server management board features and the new technologies it supports.

- **Chapter 2: Hardware Information**

  This chapter provides instructions on how to install the board to the server system and install the utilities that the board supports.

- **Chapter 3: Web-based user interface (ASMB9-iKVM only)**

  This chapter tells you how to use the web-based user interface that the server management board supports.

- **Appendix**

  The Appendix shows the location of the LAN ports for server management and BMC connector on server motherboards. This section also presents common problems that you may encounter when installing or using the server management board.

Where to find more information

Refer to the following sources for additional information and for product and software updates.

1. **ASUS websites**

   The ASUS website provides updated information on ASUS hardware and software products. Refer to the ASUS contact information.

2. **Optional documentation**

   Your product package may include optional documentation, such as warranty flyers, that may have been added by your dealer. These documents are not part of the standard package.

Conventions used in this guide

To ensure that you perform certain tasks properly, take note of the following symbols used throughout this manual.

DANGER/WARNING: Information to prevent injury to yourself when trying to complete a task.

CAUTION: Information to prevent damage to the components when trying to complete a task.

IMPORTANT: Instructions that you MUST follow to complete a task.

NOTE: Tips and additional information to help you complete a task.

Typography

Bold text	Indicates a menu or an item to select.
Italics	Used to emphasize a word or a phrase.
<Key>	Keys enclosed in the less-than and greater-than sign means that you must press the enclosed key.
	Example: <Enter> means that you must press the Enter or Return key.
<Key1> + <Key2> + <Key3>	If you must press two or more keys simultaneously, the key names are linked with a plus sign (+).
	Example: <Ctrl> + <Alt> + <Del>
`Command`	Means that you must type the command exactly as shown, then supply the required item or value enclosed in brackets.
	Example: At DOS prompt, type the command line:
	`format A:/S`

ASMB9-iKVM specifications summary

Chipset	Aspeed 2500
Internal RAM	384 MB for system 64 MB for video
Internal ROM	32 MB
Timers	32-bit Watchdog Timer
Main features	IPMI 2.0-compliant and supports KVM over LAN Web-based user interface (remote management) Virtual media Network Bonding support
Form factor	22 mm x 17 mm

* Specifications are subject to change without notice.

Product Introduction

1

This chapter describes the server management board features and the new technologies it supports.

1.1 Welcome!

Thank you for buying an ASUS® ASMB9-iKVM server management board!

The ASUS ASMB9-iKVM is an Intelligent Platform Management Interface (IPMI) 2.0-compliant board that allows you to monitor, control, and manage a remote server from the local or central server in your local area network (LAN). With ASMB9-iKVM in your server motherboard, you can completely and efficiently monitor your server in real-time. The solution allows you to reduce IT management costs and increase the productivity.

Before you start installing the server management board, check the items in your package with the list below.

1.2 Package contents

Check your server management board package for the following items.

- Support CD

- User guide

If any of the above items is damaged or missing, contact your retailer.

1.3   Features

1.   IPMI 2.0
- System interface (KCS)
- LAN interface (supports RMCP+)
- System Event Log (SEL)
- Sensor Data Record (SDR)
- Field Replaceable Unit (FRU)
- Remote Power on/off, reboot
- Serial Over LAN (SOL)
- Authentication Type: RAKP-HMAC-SHA1
- Encryption (AES)
- Platform Event Filtering (PEF)
- Platform Event Trap (PET)
- Watchdog Timer

2.   Private I2C Bus
- Auto monitoring sensors (temperature, voltage, fan speed and logging events)

3.   PMBus*
- Supports power supply for PMBus device

4.   PSMI*
- Supports power supply for PSMI bus device

5.   Web-based GUI
- Monitor sensors; show SDR, SEL, FRU; configure BMC, LAN
- Supports SSL (HTTPS)
- Multiple user permission level
- Upgrade BMC firmware
- GUI remote management interface with web management capabilities (requires a system that can display the Web-based GUI, a keyboard, and a mouse)
- SSH (Secure Shell)
- Allows up to 20 administrators to simultaneously perform remote maintenance and recovery via the Web-based GUI during an operating system failure
- Remotely control and monitor your system over the web
- Supports Directory Integration – AD, LDAP
- Supports up to 2 administrators to simultaneously operate the remote server via the Web-based GUI

6.   Update Firmware
- DOS Tool
- Web GUI (Windows® XP/Vista/2003/2008, RHEL5.2, SLES10SP2)

7.   Notification

- PET
- SNMP Trap
- e-Mail
- Self diagnosing LED indicators to display hardware status
- Supports damage monitoring for CPU, RAM, storage device, etc.

8.   KVM over Internet

- Web-based remote console

9.   Remote Update BIOS

- Use Remote floppy to update BIOS

10.   Remote Storage (Virtual Media)

- Support two remote storage for USB/CD-ROM/DVD and image

11.   Remote Install OS

- Use remote storage to remote install OS
- Web-based GUI supports virtual drive, virtual directory, mounting ISO disc image and remote installation

12.   Supports SNMB MIB file

- A management information base (MIB) is a database used for managing the entities in a communications network. Most often associated with the Simple Network Management Protocol (SNMP).

13.   User interface

- CIM
- SMASH-CLP
- WSMAN

14.   Supports RedFish

* A power supply supported PMBus and PSMI is necessary.

** Specifications are subject to change without notice.

1.4   System requirements

Before you install the ASMB9-iKVM board, check if the remote server system meets the following requirements:

- ASUS server motherboard with Baseboard Management Controller (BMC) connector*

- LAN (RJ-45) port for server management**

- Microsoft® Internet Explorer 5.5 or later; Firefox

> *   Visit www.asus.com for an updated list of server motherboards that support the ASMB9-iKVM.
>
> **   See the Appendix for details.

1.5   Network setup

The ASMB9-iKVM server management board installed on the remote server connects to a local/central server via direct LAN connection or through a network hub. Below are the supported server management configurations.

Direct LAN connection

RJ-45 cable

**Remote server
with ASMB9-iKVM**

**Remote console with web-
based browser**
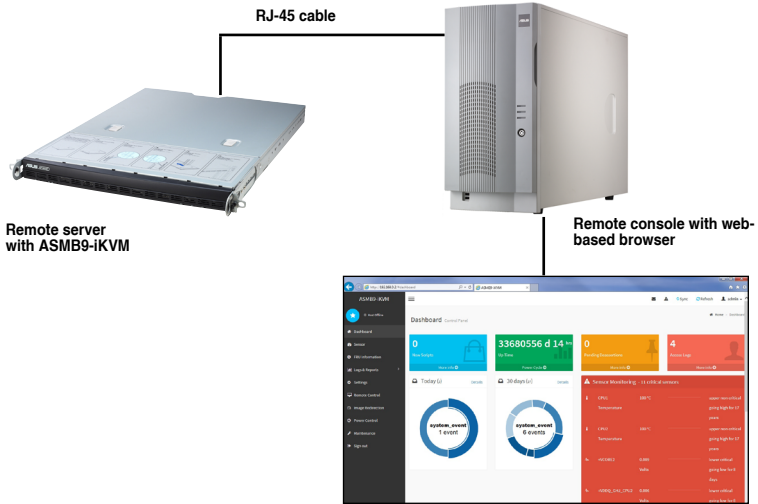
LAN connection through a network hub

Hub or router

**Remote server
with ASMB9-iKVM**

**Remote console with web-
based browser**
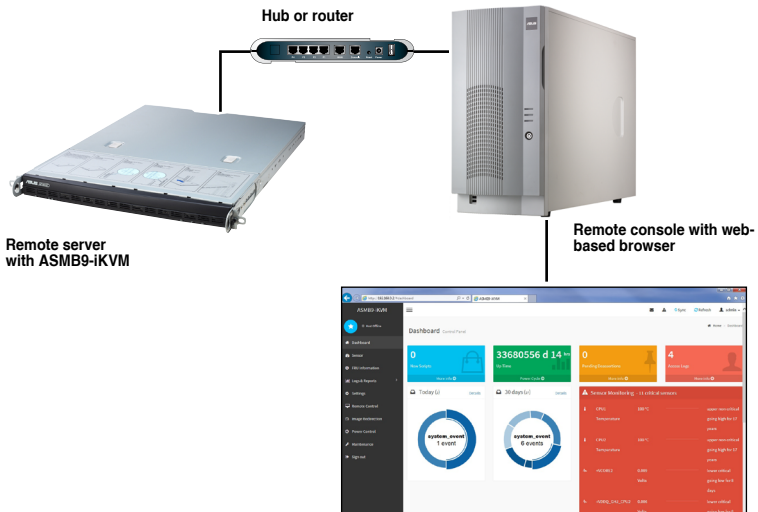
Hardware Information

2

This chapter provides instructions on how to install the board to the server system and install the utilities that the board supports.

2.1 Before you proceed

Take note of the following precautions before you install the server management board to the remote server system.

- Unplug the server system power cord from the wall socket before touching any component.

- Use a grounded wrist strap or touch a safely grounded object or to a metal object, such as the power supply case, before handling components to avoid damaging them due to static electricity.

- Hold components by the edges to avoid touching the ICs on them.

- Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that came with the component.

- Before you install or remove any component, ensure that the power supply is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

2.2 Hardware installation

To set up the server system for server management:

1. Insert the LAN cable plug to the LAN port for server management.

    Refer to the Appendix for the location of the LAN port for server management.

2. For direct LAN configuration, connect the other end of the LAN cable to the local/central server LAN port.

    For connection to a network hub or router, connect the other end of the LAN cable to the network hub or router.

3. Ensure the VGA, USB, PS/2 cables are connected, then connect the power plug to a grounded wall socket.

    Every time after the AC power is re-plugged, you have to wait for about 70 seconds for the system power up.

2.3 Firmware update and IP configuration

You need to update the ASMB9-iKVM firmware and configure IP source before you start using the ASMB9-iKVM board.

2.3.1 Firmware update

To update the firmware:

1. Insert the support CD into the optical drive.

2. Restart the remote server then press <Del> during POST to enter the BIOS setup.

3. Go to the Boot menu and set the Boot Device Priority item to [CD-ROM].

4. When finished, press <F10> to save your changes and exit the BIOS setup.

5. On reboot, select **ASMB9-iKVM Firmware Update for Clear Configuration** from the main menu and press <Enter> to enter the sub-menu.

```
                    ASUS Server Z11PP-D24 Series System

  FreeDOS command prompt
  Configure BMC IP Source Static IP for Shared LAN
  Configure BMC IP Source DHCP IP for Shared LAN
  Configure BMC IP Source Static IP for DM_LAN1
  Configure BMC IP Source DHCP IP for DM_LAN1
  ASMB9 Firnware Updated for Preserve Configuration (SDR, LAN, Username)
  ASMB9 Firnware Updated for Clear Configuration (SDR, LAN, Username)
```
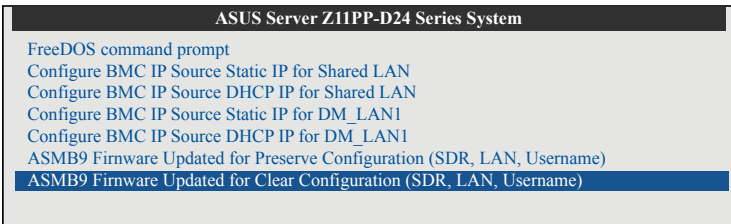
6. From the confirmation message, select <Yes> to update the firmware.

```
     WARNING !!!
     UPDATE ASMB9 FIRMWARE NOW !
     DO YOU WANT TO CONTINUE ?

                                    No     Yes
```
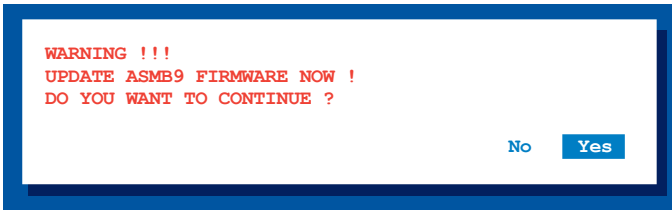
7. Wait for the firmware updating process to finish.

> You may update the firmware from the web-based user interface. Refer to the **3.10 Maintenance** section for more information.

2.3.2 Configure BMC IP source static IP

1. Insert the support CD into the optical drive.

2. Restart the remote server then press <Del> during POST to enter the BIOS setup.

3. Go to Boot menu and set the Boot Device Priority item to [CD-ROM].

4. When finished, press <F10> to save your changes and exit the BIOS setup.

5. On reboot, select **Configure BMC IP Source Static IP for Shared LAN (or DM_LAN1) from the main menu** and press <Enter> to enter the sub-menu.

```
                    ASUS Server Z11PP-D24 Series System

  FreeDOS command prompt
  Configure BMC IP Source Static IP for Shared LAN
  Configure BMC IP Source DHCP IP for Shared LAN
  Configure BMC IP Source Static IP for DM_LAN1
  Configure BMC IP Source DHCP IP for DM_LAN1
  ASMB9 Firmware Update for Preserve Configuration (SDR, LAN, Username)
  ASMB9 Firmware Update for Clear Configuration (SDR, LAN, Username)
```

6. Select <Yes> from the confirmation window.

```
   WARNING !!!
   CONFIGURE BMC IP Source STATIC IP NOW !
   DO YOU WANT TO CONTINUE ?

                                          No      Yes
```

7. Wait for the configuration to finish. When done, press any key to continue.

```
  Detect: MotherBoard       - > (Z11PP-D24 Series)
  Detect: KCS Interface
  New BMC IP Source : Static IP
  Press any key to continue . . . _
```

8. Go to BIOS menu to set the IP. For more information, refer to the **2.5.2 BMC network configuration** menu section.

2.3.3 Configure BMC IP source DHCP

1. Insert the support CD into the optical drive.

2. Restart the remote server then press <Del> during POST to enter the BIOS setup.

3. Go to Boot menu and set the Boot Device Priority item to [CD-ROM].

4. When finished, press <F10> to save your changes and exit the BIOS setup.

5. On reboot, select **Configure BMC IP Source DHCP for Shared LAN (or DM_LAN1)** from the main menu and press <Enter> to enter the sub-menu.

```
          ASUS Server Z11PP-D24 Series System

  FreeDOS command prompt
  Configure BMC IP Source Static IP for Shared LAN
  Configure BMC IP Source DHCP IP for Shared LAN
  Configure BMC IP Source Static IP for DM_LAN1
  Configure BMC IP Source DHCP IP for DM_LAN1
  ASMB9 Firnware Update for Preserve Configuration (SDR, LAN, Username)
  ASMB9 Firnware Update for Clear Configuration (SDR, LAN, Username)
```

6. Select <Yes> from the confirmation window.

```
  WARNING !!!
  CONFIGURE BMC IP Source DHCP NOW !
  DO YOU WANT TO CONTINUE ?

                                    No    Yes
```

7. Wait for the configuration to finish. When done, press any key to continue.

```
  Detect: MotherBoard        - > (Z11PP-D24 Series)
  Detect: KCS Interface
  New BMC IP Source : DHCP
  Press any key to continue . . . _
```

8. The DHCP server will assign an IP for you.

2.4　BIOS configuration

You need to adjust the settings in the BIOS setup of the remote server for correct configuration and connection to the central server.

✏️　•　Update the remote server BIOS file following the instructions in the motherboard/ system user guide. Visit the ASUS website (www.asus.com) to download the latest BIOS file for the motherboard.

　•　The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.

2.4.1　Running the BIOS BMC configuration

To configure the BMC in the BIOS:

1.　Restart the remote server, then press <Del> during POST to enter the BIOS setup.

2.　Go to the **Server Mgmt** menu, then select the **BMC network configuration** sub-menu. Use this sub-menu to configure the BMC settings.

3.　When finished, press <F10> to save your changes and exit the BIOS setup.

2.5 Server Mgmt menu

The Server Management menu displays the server management status and allows you to change the settings.

```
Aptio Setup Utility - Copyright (C) 2017 American Megatrends, Inc.
  Main  Advanced  Platform Configuration  Socket Configuration  Event Logs  Server Mgmt
─────────────────────────────────────────────────────────────────────────────────────
  BMC Self Test Status          PASSED              If enabled, starts a BIOS
  BMC Device ID                 32                  timer which can only be shut
  BMC Device Revision           1                   off by Management Software
  BMC Firmware Revision         1.01                after the OS loads.  Helps
  IPMI Version                  2.0                 determine that the OS
                                                    successfully loaded or follows
  OS Watchdog Timer             [Disabled]          the OS Boot Watchdog Timer
  OS Wtd Timer Timeout          [10 minutes]        policy.
  OS Wtd Timer Policy           [Reset]
▶ System Event Log
▶ BMC network configuration
▶ View System Event Log
                                                    ↔: Select Screen
                                                    ↑↓: Select Item
                                                    Enter: Select
                                                    +/-: Change Opt.
                                                    F1: General Help
                                                    F2: Previous Values
                                                    F5: Optimized Defaults
                                                    F10: Save Changes & Reset
                                                    F12: Print Screen
                                                    ESC: Exit

              Version 2.19.1266. Copyright (C) 2017 American Megatrends, Inc.
```
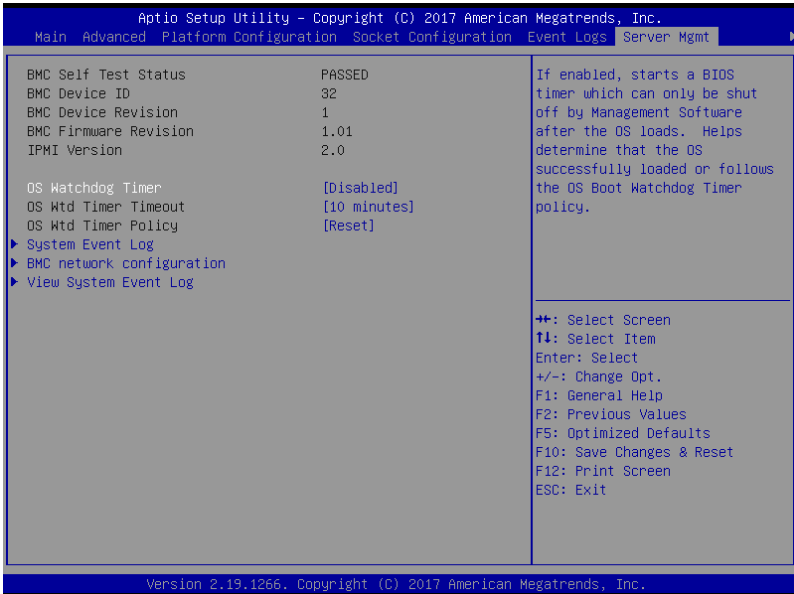
OS Watchdog Timer [Disabled]

This item allows you to start a BIOS timer which can only be shut off by Intel Management Software after the OS loads.
Configuration options: [Disabled] [Enabled]

> 🖉 The following items is configurable only when the **OS Watchdog Timer** is set to **[Enabled]**.

OS Wtd Timer Timeout [10 minutes]

Allows you to configure the length fo the OS Boot Watchdog Timer.
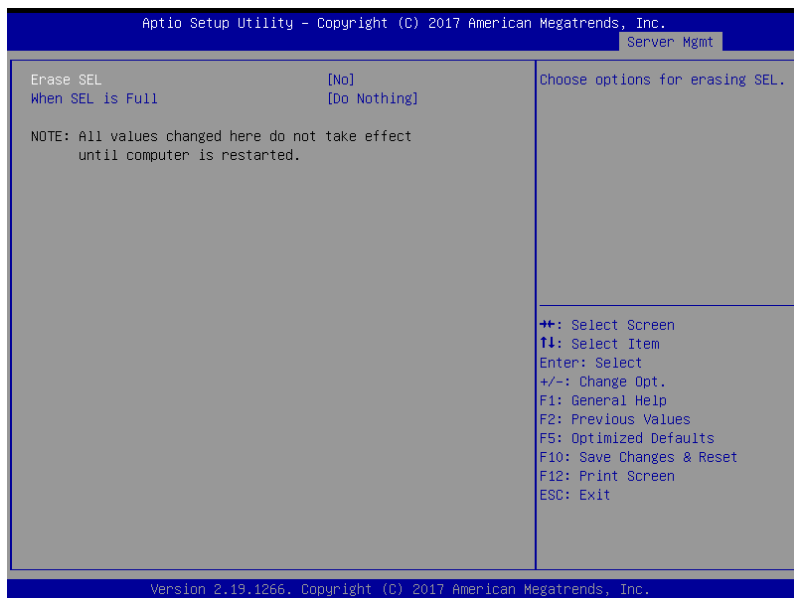Configuration options: [5 minutes] [10 minutes] [15 minutes] [20 minutes]

OS Wtd Timer Policy [Reset]

This item allows you to configure the how the system should respond if the OS Boot Watch Timer expires.
Configuration options: [Do Nothing] [Reset] [Power Down]

2.5.1   System Event Log

Allows you to change the SEL event log configuration.

```
             Aptio Setup Utility - Copyright (C) 2017 American Megatrends, Inc.
                                                                    Server Mgmt

   Erase SEL                        [No]               Choose options for erasing SEL.
   When SEL is Full                 [Do Nothing]

   NOTE: All values changed here do not take effect
         until computer is restarted.




                                                       →←: Select Screen
                                                       ↑↓: Select Item
                                                       Enter: Select
                                                       +/-: Change Opt.
                                                       F1: General Help
                                                       F2: Previous Values
                                                       F5: Optimized Defaults
                                                       F10: Save Changes & Reset
                                                       F12: Print Screen
                                                       ESC: Exit



             Version 2.19.1266. Copyright (C) 2017 American Megatrends, Inc.
```

Erase SEL [No]

Allows you to choose options for erasing SEL.
Configuration options: [No] [Yes, On next reset] [Yes, On every reset]

When SEL is Full [Do Nothing]

Allows you to choose options for reactions to a full SEL.
Configuration options: [Do Nothing] [Erase Immediately]

2.5.2   BMC network configuration

Allows you to set the BMC LAN parameter settings.

```
                   Aptio Setup Utility - Copyright (C) 2017 American Megatrends, Inc.
                                                                    Server Mgmt

  --BMC network configuration--                            ▲    Select to configure LAN
  ************************                                      channel parameters statically
  Configure IPV4 support                                       or dynamically(by BIOS or
  ************************                                      BMC). Previous State option
                                                               will not modify any BMC
  DM_LAN1                                                       network parameters during BIOS
  Config Address source          [Previous State]              phase
  Current Config Address source  DHCP Mode
  IP Address in BMC :            0.0.0.0
  Subnet Mask in BMC :           0.0.0.0
  Station MAC address            00-e0-18-81-01-42
  Gateway IP address             0.0.0.0

  Shared LAN                                                    ↔: Select Screen
  Config Address source          [Previous State]              ↑↓: Select Item
  Current Config Address source  DHCP Mode                      Enter: Select
  IP Address in BMC :            0.0.0.0                         +/-: Change Opt.
  Subnet Mask in BMC :           0.0.0.0                         F1: General Help
  Station MAC address            00-e0-18-81-01-43              F2: Previous Values
  Gateway IP address             0.0.0.0                         F5: Optimized Defaults
                                                                F10: Save Changes & Reset
  ************************                                      F12: Print Screen
  Configure IPV6 support                                        ESC: Exit
  ************************                                  ▼

                   Version 2.19.1266. Copyright (C) 2017 American Megatrends, Inc.
```

Configure IPV4 support

DM_LAN1 / Shared LAN

Config Address Source [Previous State]

Allows you to select the IP address source type. Set the LAN channel parameters statically or dynamically.

Configuration options: [Previous State] [Static] [DynamicBmcDhcp]

> The following items are available when you set **Config Address Source** to **[Static]**.

IP Address in BMC
Allows you to set the station IP address.

Subnet Mask in BMC
Allows you to set the subnet mask. We recommend that you use the same Subnet Mask you have specified on the operating system network for the used network card.

Gateway IP Address
Allows you to set the Gateway IP address.

Configure IPV6 support

DM_LAN1 / Shared LAN

IPV6 support [Disabled]

Allows you to enable or disable IPV6 support.
Configuration options: [Enabled] [Disabled]

> The following items are available when you set **IPV6 support** to [Enabled].

Config Address Source [Previous State]
Allows you to select the IP address source type. Set the LAN channel parameters statically or dynamically.
Configuration options: [Previous State] [Static] [DynamicBmcDhcp]

> The following items are available when you set **Config Address Source** to **[Static]**.

Station IPV6 address
Allows you to set the station IPV6 address.

Prefix Length
Allows you to set the prefix length.

IPV6 Router1 IP Address
Allows you to set the IPV6 Router1 IP address.

2.5.3   View System Event Log

Allows you to view all the events in the BMC event logs. It will take a maximum of 15 seconds to read all the BMC SEL records.

```
             Aptio Setup Utility - Copyright (C) 2017 American Megatrends, Inc.
                                                                    Server Mgmt

   No. of log entries in SEL : 513              HEX:
                                                01  00  02  3D  FD  6C
   DATE      TIME      SENSOR TYPE              38  20  00  04  01  31
                                                01  57  64  59
   12/31/99  19:00:13  Temperature             Generator ID: BMC - LUN #0
   12/31/99  19:00:13  Temperature             (Channel #0)
   12/31/99  19:00:13  Temperature             Sensor Number: 0x31
   12/31/99  19:00:13  Temperature             CPU1 Temperature
   12/31/99  19:00:13  Voltage                 Event Description:
   12/31/99  19:00:13  Voltage                 Record Type-0x02.
   12/31/99  19:00:13  Voltage                 CPU1 Temperature.
   12/31/99  19:00:13  Voltage
   12/31/99  19:00:13  Voltage
   12/31/99  19:00:13  Voltage
   12/31/99  19:00:13  Voltage                 →←: Select Screen
   12/31/99  19:00:13  Voltage                 ↑↓: Select Item
   12/31/99  19:00:13  Voltage                 Enter: Select
   12/31/99  19:00:13  Power Supply            +/-: Change Opt.
   12/31/99  19:00:13  Power Supply            F1: General Help
   12/31/99  19:00:13  Fan                     F2: Previous Values
   12/31/99  19:00:13  Fan                     F5: Optimized Defaults
   12/31/99  19:00:13  Fan                     F10: Save Changes & Reset
   12/31/99  19:00:13  Fan                     F12: Print Screen
   12/31/99  19:00:13  Fan                     ESC: Exit
   12/31/99  19:00:13  Fan
   12/31/99  19:00:13  Fan

             Version 2.19.1266. Copyright (C) 2017 American Megatrends, Inc.
```

2.6   Running the ASMC8 utility

The ASMC8 utility allows you to update the ASMB9-iKVM firmware, configure the LAN settings for the remote server, and change the user name/password in DOS environment. This utility is available from the support CD that came with the package.

To run the ASMC8 utility:

1.   Insert the support CD into the optical drive.

2.   Restart the remote server then press <Del> during POST to enter the BIOS setup.

3.   Go to Boot menu and set the Boot Device Priority item to [CD-ROM].

4.   When finished, press <F10> to save your changes and exit the BIOS setup.

5.   On reboot, select **FreeDOS command prompt** from the main menu then press <Enter>.

```
                        ASUS Server Z11PP-D24 Series System

    FreeDOS command prompt
    Configure BMC IP Source Static IP for Shared LAN
    Configure BMC IP Source DHCP IP for Shared LAN
    Configure BMC IP Source Static IP for DM_LAN1
    Configure BMC IP Source DHCP IP for DM_LAN1
    ASMB9 Firnware Update for Preserve Configuration (SDR, LAN, Username)
    ASMB9 Firnware Update for Clear Configuration (SDR, LAN, Username)
```

6.   From the `C:>` prompt, type `ASMC8 -?` then press <Enter> to display the ASMC8 Utility Help Menu (as shown below).

```
+ - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - +
|    ASUS Server Management card Utility 8.03 Help Menu            |
+ - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - +
Usage:
ASMC8 -kcs[smic/bt/pci_smic] NetFn command data . . . .
ASMC8 -bmc_ip_source source[1:Static, 2:DHCP]
ASMC8 -bmc_ip ip_addr[10.10.10.20]
ASMC8 -bmc_mask ip_mask[255.255.255.0]
ASMC8 -bmc_gateway ip_addr[10.10.10.254]
ASMC8 -ipv6_source source[1:Static, 2:DHCP]
ASMC8 -ipv6 ipv6_addr[2001: 0db8 : 1234 : 5678 : 8769 : e1cb : aabb : ccdd]
ASMC8 -ipv6_prefix prefix_length[64]
ASMC8 -pet_ip_mac ip_addr[10.10.10.20] mac_addr[010203040506]
ASMC8 -bmc_ip_s_lan1 source[1:Static, 2:DHCP]
ASMC8 -bmc_ip_lan1 ip_addr[10.10.10.20]
ASMC8 -bmc_mask_lan1 ip_mask[255.255.255.0]
ASMC8 -bmc_g_lan1 ip_addr[10.10.10.254]
ASMC8 -ipv6_s_lan1 source[1:Static, 2:DHCP]
ASMC8 -ipv6_lan1 ip_addr[2001: 0db8 : 1234 : 5678 : 8769 : e1cb : aabb : ccdd]
ASMC8 -ipv6_prefix_lan1 prefix_length[64]
ASMC8 -pet_ip_m_lan1 ip_addr[10.10.10.20] mac_addr[010203040506]

<Press any key to see the next page> <ESC key to break>
```

Press any key to see next page.

ASMC8 Help Menu options

Options	Description
-kcs[smic/bt/pci_smic] NetFn command data....	Send IPMI command
-bmc_ip_source source[1: Static, 2: DHCP]	Set the IP source
-bmc_ip [ip_addr] (e.g., bmc_ip 10.10.10.20)	Write the BMC IP address for dedicated LAN
-bmc_mask [ip_mask] (e.g., bmc_mask 255.255.255.0)	Write the subnet mask for dedicated LAN
-bmc_gateway [ip_addr] (e.g., bmc_gateway 10.10.10.254)	Write the gateway address for dedicated LAN
-pet_ip_mac [ip_addr] [mac_addr] (e.g., pet_ip_mac 10.10.10.20 010203040506)	Write the PET destination IP and MAC addresses for dedicated LAN
-bmc_ip_s_lan1 source[1: Static, 2: DHCP]	Set the IP source for shared LAN
-bmc_ip_lan1 [ip_addr] (e.g., bmc_ip 10.10.10.20)	Write the BMC IP address for shared LAN
-bmc_mask_lan1 [ip_mask] (e.g., bmc_mask 255.255.255.0)	Write the subnet mask for shared LAN
-bmc_g_lan1 [ip_addr] (e.g., bmc_gateway 10.10.10.254)	Write the gateway address for shared LAN
-pet_ip_m_lan1 [ip_addr] [mac_addr] (e.g., pet_ip_mac 10.10.10.20 010203040506)	Write the PET destination IP and MAC addresses for shared LAN
-adm_name new_name_string	Change the administration name
-user_name new_name_string	Change the user name
-adm_password new_adm_password	Change the administration password
-user_password new_user_password	Change the user password
-sol_baud [baud rate] (e.g., sol_baud 57600)	Set the communication Baud rate
-bmc_info	Displays the BMC and PET IP and MAC addresses
-fru -view fru_id	Displays the system FRU information
-fru -load fru_file	Update system FRU data from file
-fru -save fru_id fru_file	Save system FRU data to file
-sel -clear	Clear system event log

2.6.1   Configuring the LAN controller

Before you can establish a connection to the ASMB9-iKVM board, you must configure the LAN port for server management used by the remote server to connect to the local/central server.

To configure the LAN port of the remote server:

1.   Run the ASMC8 utility from the support CD following the instructions in the previous section.

2.   Set IP source:

   a.   Type `ASMC8 -bmc_ip_source 1` if you want to set a static IP address.

   b.   Type `ASMC8 -bmc_ip_source 2` if you want to get IP from DHCP server.

3.   Type `ASMC8 -bmc_ip xxx.xxx.xxx.xxx` then press <Enter> to assign any IP address to the remote server LAN port (if necessary). The screen displays the request and response buffer.

> Write the remote server IP address on a piece of paper for future reference.

```
c:\>ASMC8 -bmc_ip  10.10.10.243
Detect MotherBoard    -> (Z11PP-D24 Series)
Detect KCS Interface
New BMC IP : 10.10.10.243
c:\>
```

When finished, the utility returns to the DOS prompt.

> Make sure that the assigned IP address for both remote and local/central servers are in the same subnet. You can use the network settings utility in your OS to check.

4.   Configure your subnet mask and gateway address if necessary.

   a.   Type `ASMC8 -bmc_mask xxx.xxx.xxx.xxx` (your subnet mask encoded in hexadecimal system)

   b.   Type `ASMC8 -bmc_gateway xxx.xxx.xxx.xxx` (your gateway address encoded in hexadecimal system)

5.   Restart the remote server, enter the BIOS setup, then boot from the hard disk drive.

6.   Adjust the local/central server network settings, if necessary.

2.6.2   Configuring the user name and password

You may change your user name and password from the ASMC8 utility.

To change the user name and password:

1.   Insert the support CD into the optical drive.

2.   Restart the remote server then press <Del> during POST to enter the BIOS setup.

3.   Go to Boot menu and set the Boot Device Priority item to [CD-ROM].

4.   When finished, press <F10> to save your changes and exit the BIOS setup.

5.   On reboot, select **FreeDOS command prompt** from the main menu then press <Enter>.

6.   From the `C:>` prompt, type `ASMC8 -user_name xxxxx` then press <Enter> to change the user name.

```
c:\>ASMC8 -user_name super
Detect MotherBoard     -> (Z11PP-D24 Series)
Detect KCS Interface

Change User Name to super
c:\>
```

7.   Type `ASMC8 -user_password xxxxxxxx`, then press <Enter> to change the password.

8.   Restart the remote server, enter the BIOS setup, then boot from the hard disk drive.

3

Web-based User Interface

This chapter tells you how to use the web-based user interface that the server management board supports.

3.1   Web-based user interface

The web-based user interface allows you to easily monitor the remote server's hardware information including temperatures, fan rotations, voltages, and power. This application also lets you instantly power on/off or reset the remote server.

To enter the Web-based user interface:

1.   Enter the BIOS Setup during POST.

2.   Go to the **Advanced Menu > Runtime Error Logging > CPU II0 Bridge Configuration > Launch Storage OpROM**, then press <Enter>.

3.   Set **Launch Storage OpROM** to [Enabled].

4.   Go to the Server **Mgmt Menu > BMC network configuration > Configuration Address source**, then press <Enter>.

5.   Enter the **IP Address in BMC, Subnet Mask in BMC and Gateway Address in BMC**.

6.   Press <F10> to save your changes and exit the BIOS Setup.

> You should install JRE on remote console first before using web-based management. You can find **JRE** from the folder **JAVA** of the ASMB9-iKVM support CD. You can also download JRE from **http://www.oracle.com/technetwork/java/javase/downloads/index. html**

3.1.1 Logging in the utility

1. Ensure that the LAN cable of the computer is connected to the LAN port of the remote server.

2. Open the web browser and type in the same IP address as the one in the remote server.

3. The below screen appears. Enter the default user name (admin) and password (admin). Then click Login.
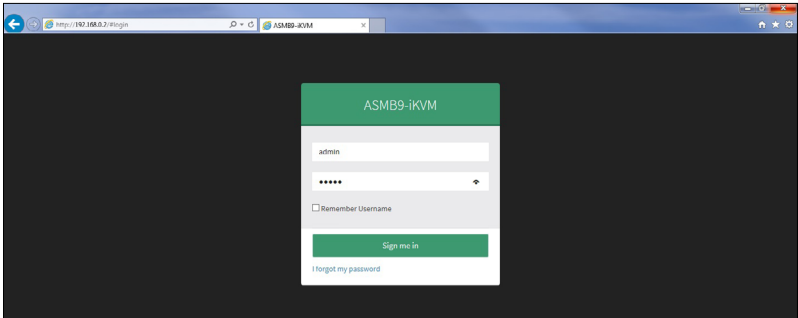
3.1.2 Using the utility

The web-based graphics user interface displays when you login in the utility successfully. Click on a function from the list on the left hand side to start using its specific functions.

3.2   Dashboard

The dashboard gives you a quick overview for all the system status, sensors, messages, and logs. Click or hover your mouse over an item to see more details.
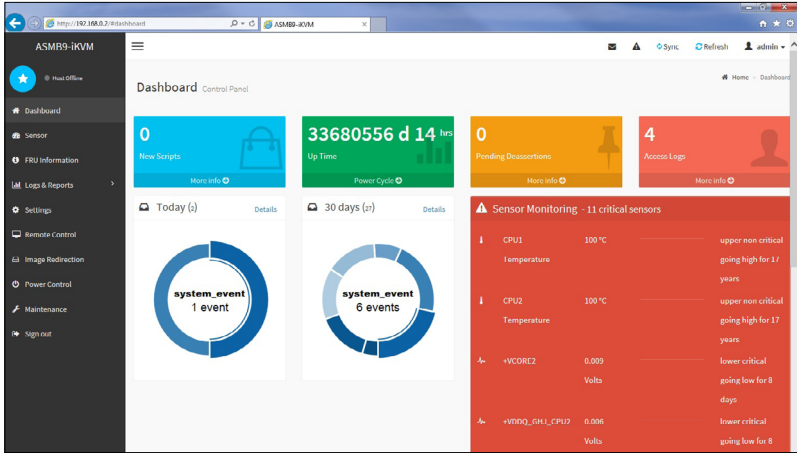
3.3   Sensor

The Sensor Readings page displays live readings for all the available sensors with details like Sensor Name, Status, Current Reading and Behavior will be displayed. This page will automatically refresh itself with data from the database. Please note that there may be some delay when retrieving live data.
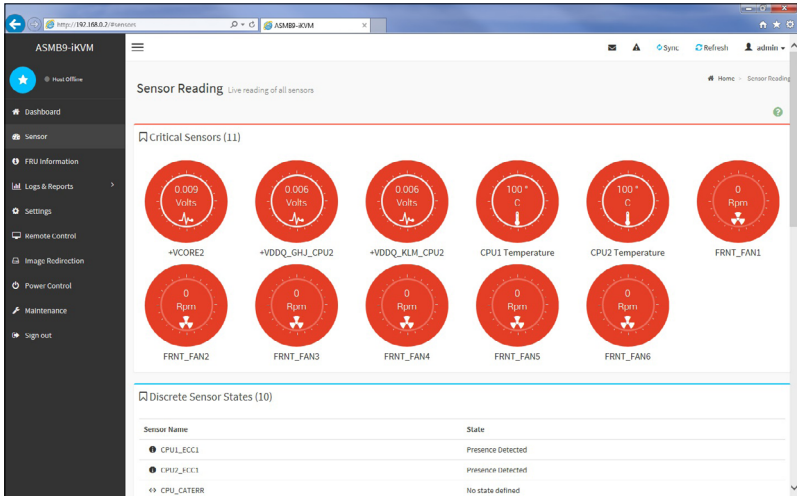
3.4 FRU Information

This Page displays the BMC's FRU device information. The FRU page shows Basic Information, Chassis Information, Board Information and Product Information of the FRU device.
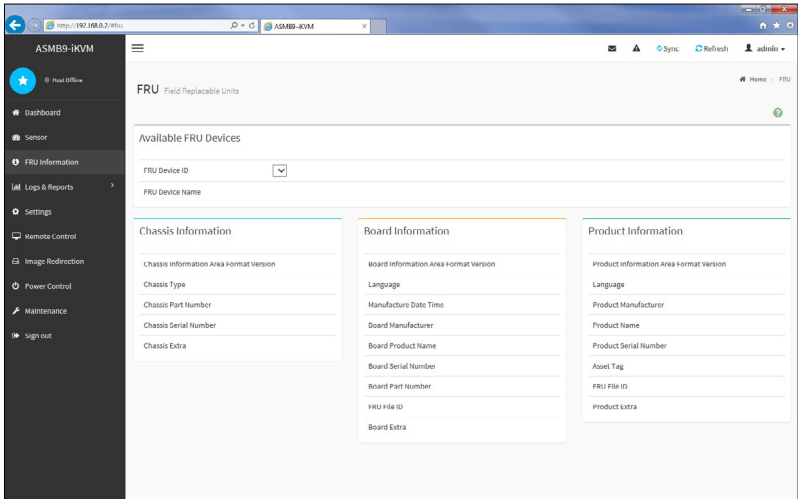
3.5 Logs & Reports

This menu contains the IPMI Event Log, System Log, Audit Log, and Video Log.
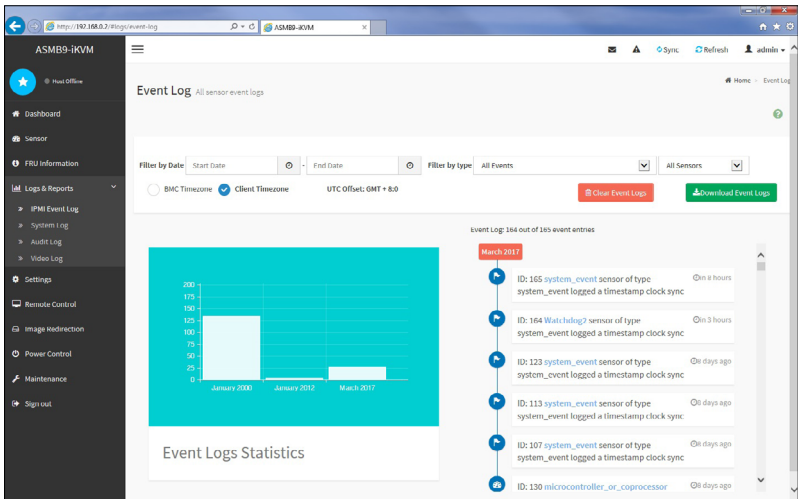
3.5.1   IPMI Event Log

This page displays the list of events incurred by different sensors on this device. Click on a record to see the details of that entry. You can click the **Download Event Logs** button to download the logs.

To view the Event Log on a selected time period

1.   From the **Filter By Date** field, select the time period by selecting the **Start Date** and the **End Date** from the calender.

2.   From the **Filter By Type** field, select the type of event and sensor name to view the events of the selected event type for that sensor.
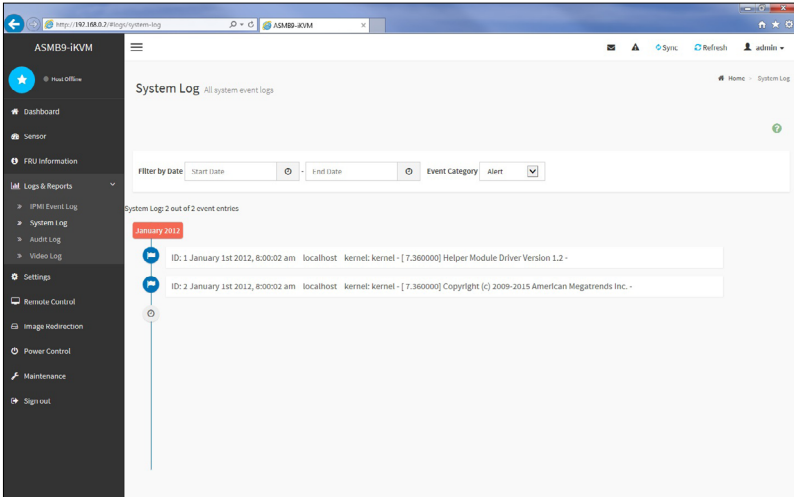
To clear all events from the list, click the **Clear Event Logs** button.

3.5.2   System Log

This page displays logs of system events for this device (if the options have been configured).

> Logs have to be configured under **Settings** > **Log Settings** > **Advanced Log Settings** in order to display any entries.

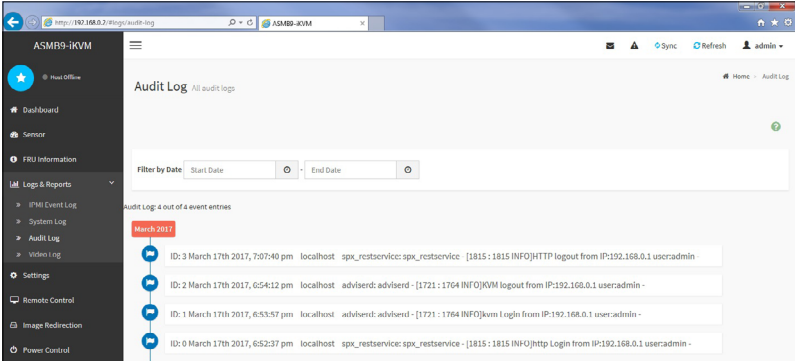To view the System Log on a selected time period

1.   From the **Filter By Date** field, select the time period by selecting the **Start Date** and the **End Date** from the calender.

2.   From the **Event Category** field, select the type of event to view the events of the selected event type.

3.5.3   Audit Log

This page displays logs of audit events for this device (if the options have been configured).

> Logs have to be configured under **Settings** > **Log Settings** > **Advanced Log Settings** in order to display any entries.

To view the Audit Log on a selected time period, from the **Filter By Date** field, select the time period by selecting the **Start Date** and the **End Date** from the calender.

3.5.4   Video Log

This page displays logs of available recorded video files (if the options have been configured).

> Logs have to be configured under **Settings** > **Log Settings** > **Advanced Log Settings** in order to display any entries.
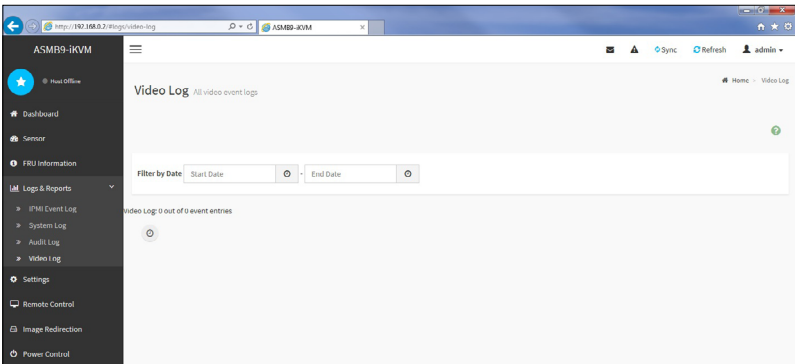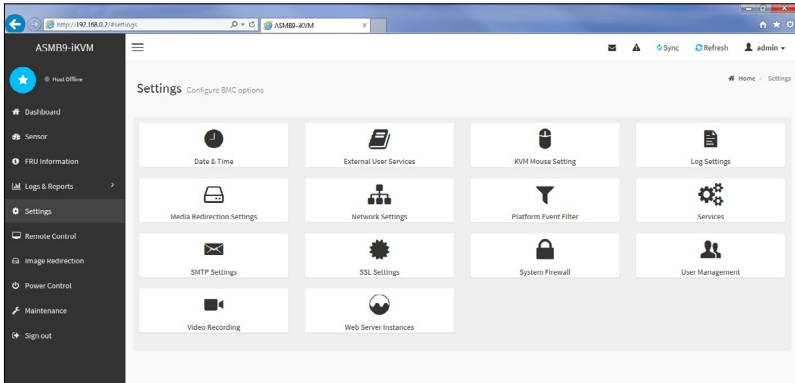

To view the Video Log on a selected time period, from the **Filter By Date** field, select the time period by selecting the **Start Date** and the **End Date** from the calender.
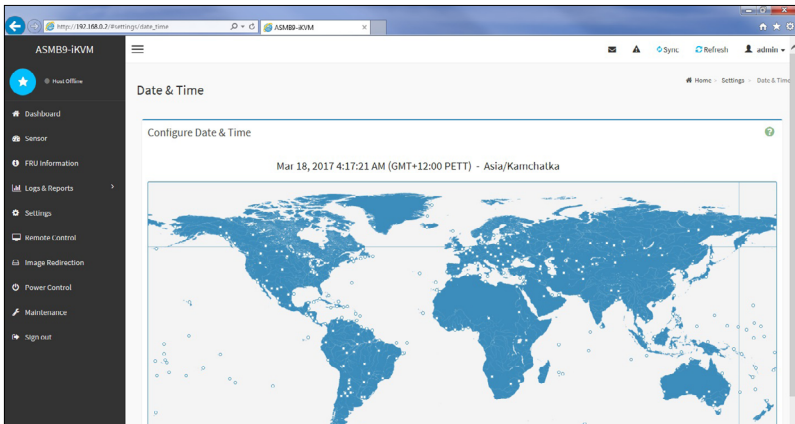
3.6 Settings

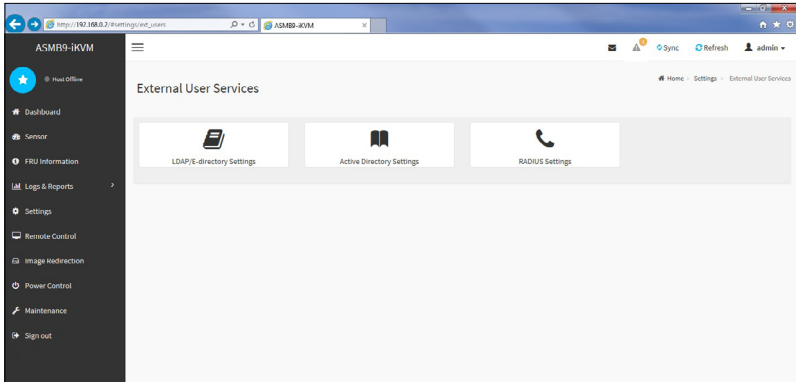This page allows you to configure the BMC settings. Click on an item for more options.

3.6.1 Date & Time

This page allows you to set the date and time on the BMC.

3.6.2 External User Services

This page allows you to set the LDAP/E-directory Settings, Active directory Settings, and RADIUS Settings.

LDAP/E-directory Settings

This page allows you to set the LDAP/E-directory Settings. The **Lightweight Directory Access Protocol (LDAP)** is an application protocol for querying and modifying data of directory services implemented in Internet Protocol (IP) networks. If you have an LDAP server configured on your network, you can use it as an easy way to add, manage and authenticate MegaRAC® card users. This is done by passing login requests to your LDAP Server. This means that there is no need to define an additional authentication mechanism, when using the MegaRAC® card. Since your existing LDAP Server keeps an authentication centralized, you will always know who is accessing the network resources and can easily define the user or group-based policies to control access.

Active directory Settings

This page allows you to set the Active directory Settings. An active directory does a variety of function including the ability to provide the information on objects, helps organize these objects for easy retrieval and access, allows access by users and administrators, and allows the administrators to set security up for the directory.

RADIUS Settings

This page is used to enable or disable RADIUS authentication and enter the required information to access the RADIUS server.

3.6.3   KVM Mouse Setting

This page allows you to set the mouse mode. The Redirection Console handles mouse emulation from local window to remote screen using either of the three methods. Only the Administrator has the right to configure this option.
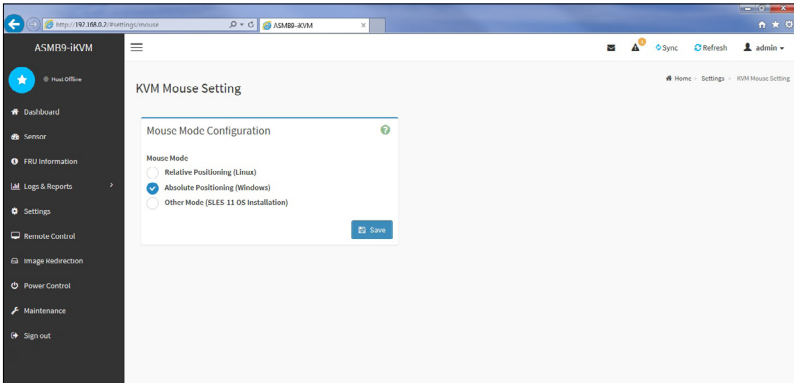
3.6.4   Log Settings

This page allows you to set the log policy for the event log.
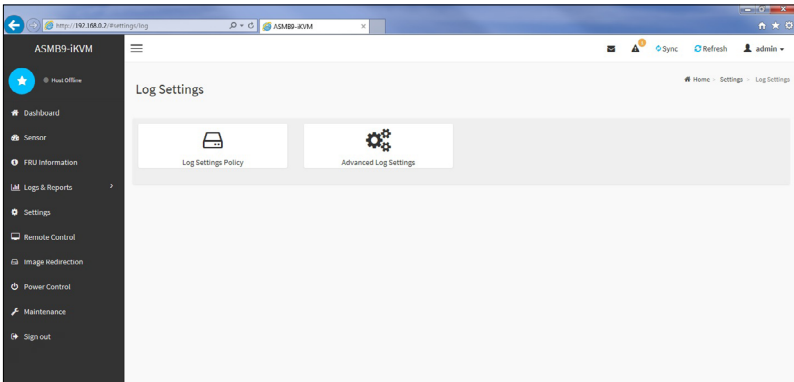
Log Settings Policy

This page is used to configure the log policy for the event log

Advanced Log Settings

This page allows you to set advanced settings for the event logs.

3.6.5   Media Redirection Settings

This page allows you to set the media redirection settings.
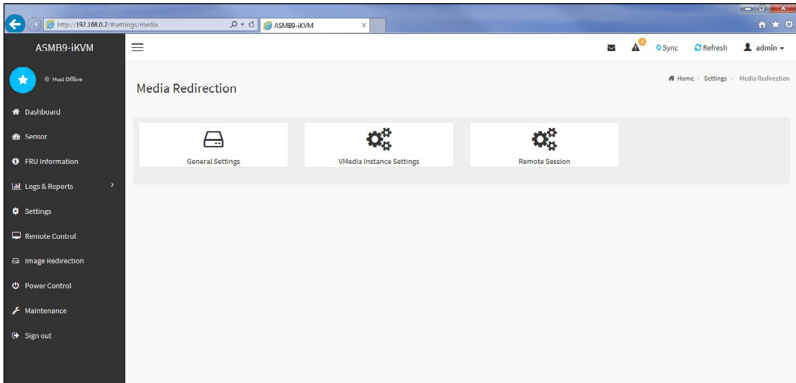
General Settings

This page allows you to enable or disable Local Media support, check or uncheck the checkbox respectively.

VMedia Instance Settings

This page allows you to configure settings for media devices.

Remote Session

This page allows you to change the settings for the remote session.

3.6.6　Network Settings

The Network Settings page allows you to configure the network settings.
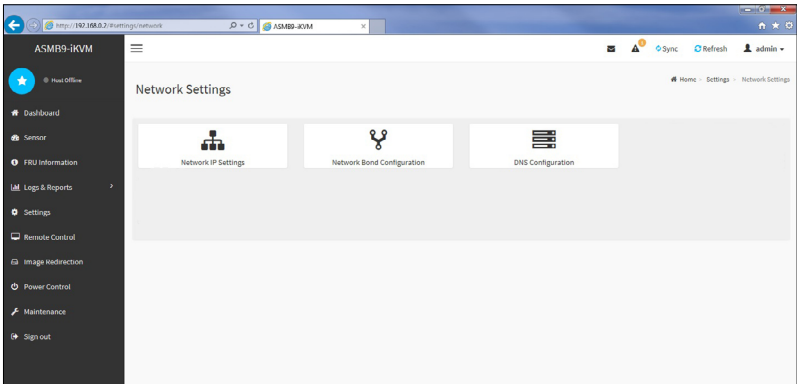
Network IP Settings

This page allows you to manage LAN support for the interface.

Network Bond Configuration

This page allows you to enable network bonding for network interfaces.

DNS Configuration

This page allows you to manage DNS settings of the device.

3.6.7   Platform Event Filters

Platform Event Filtering (PEF) provides a mechanism for configuring the BMC to take selected actions on event messages that it receives or has internally generated. These actions include operations such as system power-off, system reset, as well as triggering the generation of an alert. A PEF implementation is recommended to provide at least 16 entries in the event filter table. A subset of these entries should be pre-configured for common system failure events, such as over-temperature, power system failure, fan failure events, etc.
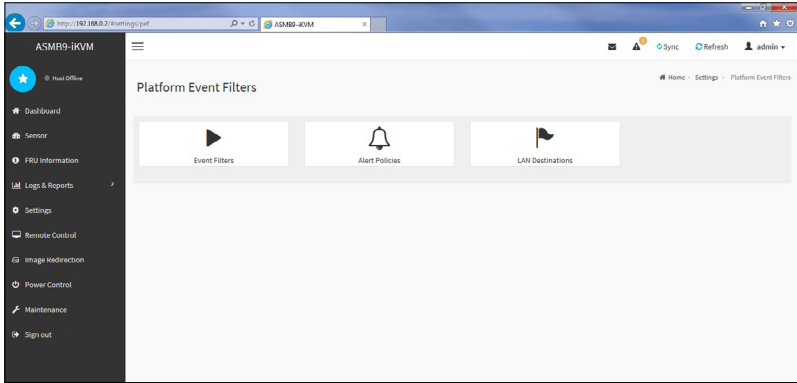
Event Filters

This page shows all configured Event filters and available slots. You can modify or add new event filter entry on this page. By default,15 event filter entries are configured among the 40 available slots.

Alert Policies

This page shows all configured Alert policies and available slots. You can modify or add new alert policy entry from on this page. A maximum of 60 slots are available.

LAN Destinations

This page shows all configured LAN destinations and available slots. You can modify or add new LAN destination entry from on this page. A maximum of 15 slots are available.

3.6.8 Services

This page lists services running on the BMC. It shows current status and other basic information about the services.
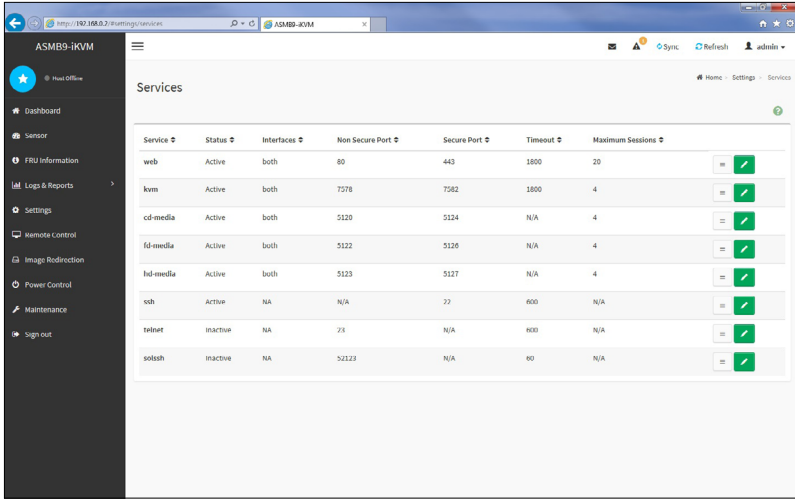
3.6.9 SMTP

The SMTP page allows you to configure SMTP mail server.
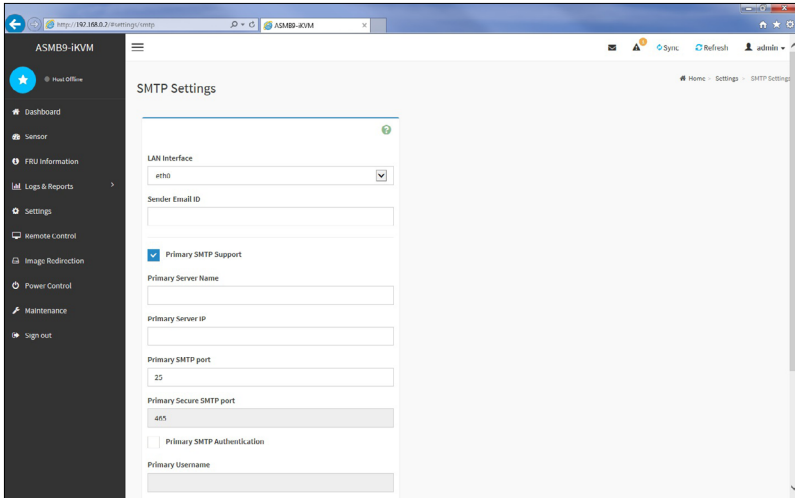
3.6.10   SSL Settings

The **Secure Socket Layer** protocol was created by Netscape to ensure secure transactions between web servers and browsers. The protocol uses a third party, a **Certificate Authority (CA)**, to identify one end or both end of the transactions.
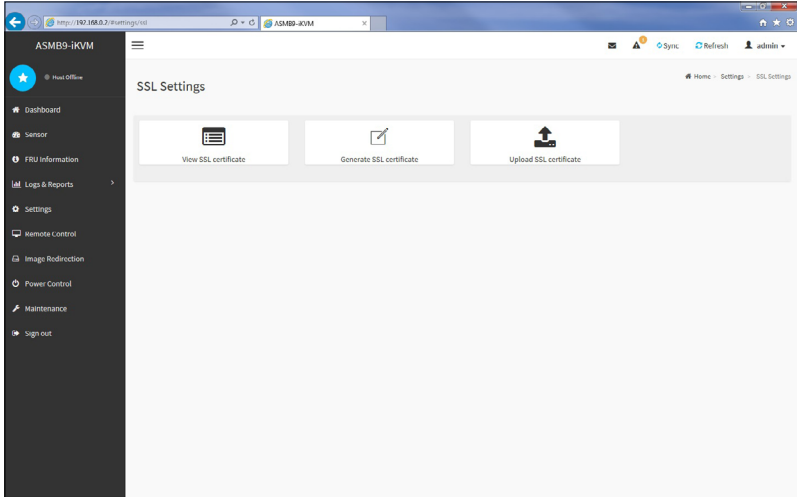
View SSL Certificate

This page displays the basic information about the uploaded SSL certificate.

Generate SSL Certificate

This page allows you to create an SSL certificate.

Upload SSL Certificate

This page allows you to upload a certificates and private keys.

3.6.11   System Firewall

This page allows you to create and manage firewalls on the BMC.
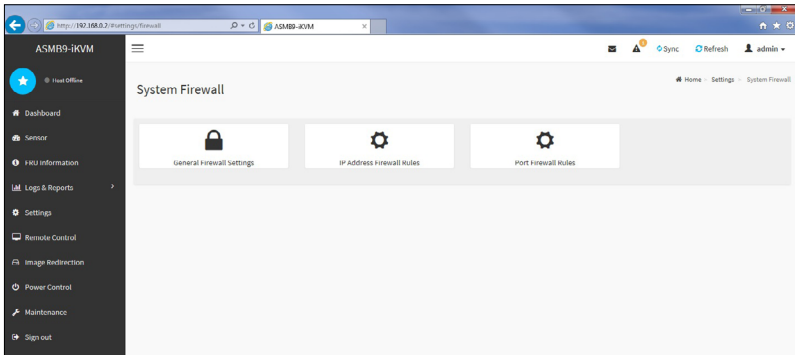
General Firewall Settings

This page allows you to create and manage existing general firewall settings.

IP Firewall Rules

This page allows you to create and manage existing firewall settings based on IP.

Port Firewall Rules

This page allows you to create and manage existing firewall settings based on ports.

3.6.12   User Management

The User Management page allows you to view the current list of user slots for the server. You can add a new user and modify or delete the existing users.
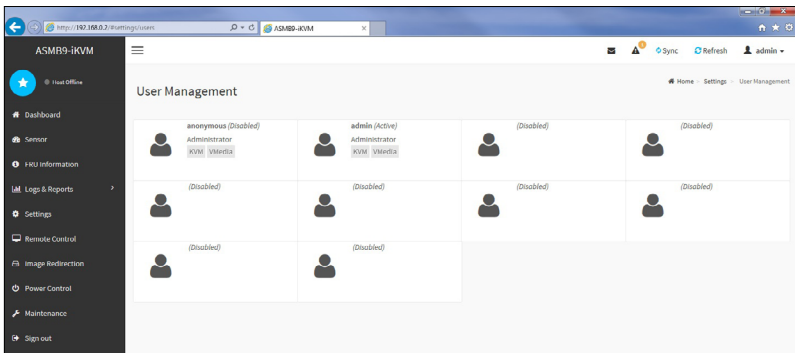
3.6.13   Video Recording

This page allows you to customize the video recording settings.
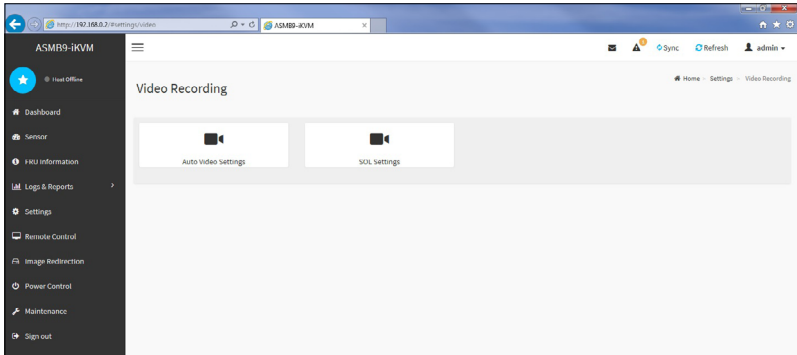
Auto Video Settings

This page allows you to configure the events that will trigger the auto video recording function of the KVM server and display the list of available recorded video files on the BMC.

Sol Settings

The Java SOL page allows you to launch the Java SOL application.

3.6.14   Web Server Instances

This page allows you to set the number of backend web server instances that will be launched to provide load balancing.
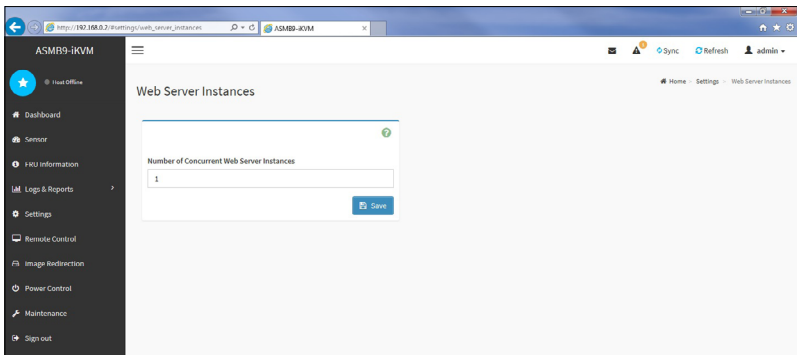
3.7 Remote Control

This menu allows you to perform remote operations on the server. Click **Launch KVM** to start the remote KVM.
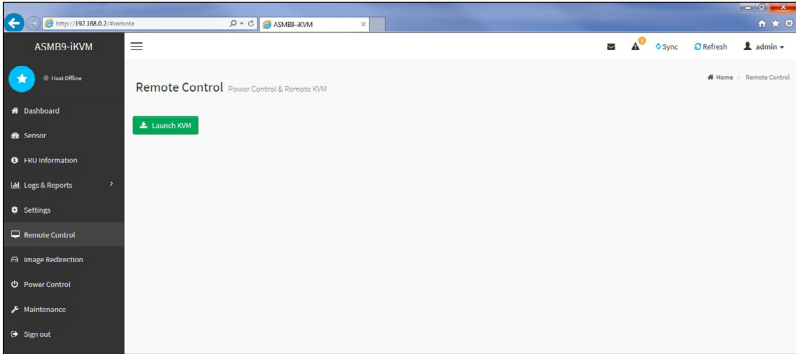
3.7.1 Console Redirection

The remote console application, which is started using the WebGUI, allows you to control your server's operating system remotely, using the screen, mouse, and keyboard, and to redirect local CD/DVD, Floppy diskette and Hard disk/USB thumb drives as if they were connected directly to the server. Click **Start KVM** to start the redirection session.
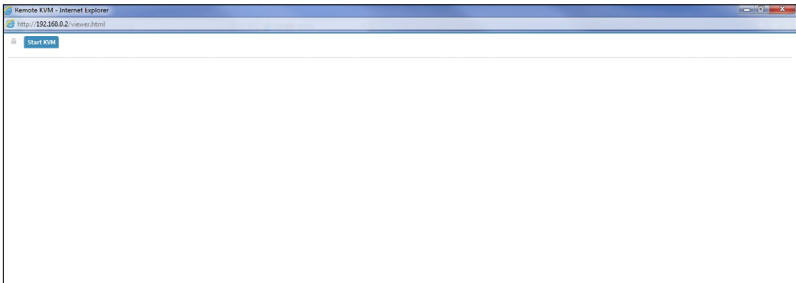
When launching the KVM, pop-up block should be disabled. For Internet explorer, enable the download file options from the settings.

Remote KVM interface
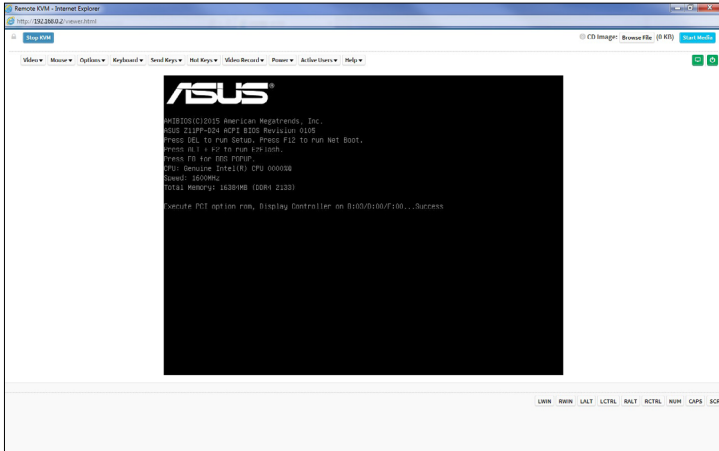
Video

1.   **Pause Video:** This option is used for pausing Console Redirection.

2.   **Resume Video:** This option is used to resume the Console Redirection when the session is paused.

3.   **Refresh Video:** This option can be used to update the display shown in the Console Redirection window.

4.   **Host display:** If you turn this option ON, the display will be back in the server screen.

5.   **Capture Screen:** This option allows you to screen capture the console redirection screen.

Mouse

1.   **Show Client Cursor:** This menu item can be used to show or hide the local mouse cursor on the remote client system.

2.   **Mouse Mode:** This menu item allows you to select the mode or type of mouse support.

Options

1.   **Block Privilege Request:** Allows you to block privilege requests.

2.   **YUV:** Allows you to select the YUV.

3.   **Quality:** Allows you to set the quality that ranges from 0 (Best Quality) to 7 (Worst Quality).

Keyboard

Keyboard Layout: This menu item allows you to select the keyboard layout.

Send Keys

1.   **Hold Down**: These menu items can be used to act as holding down the corresponding key when in Console Redirection.

2.   **Press and Release:** These menu items can be used to act as a press and release on the corresponding key when in Console Redirection.

Hot Keys

These menu items allow you to make use of hot keys.

Video Record

1.   **Record Video**: This option allows you to start recording the console redirection screen.

2.   **Stop Recording:** This option allows you to stop recording the console redirection screen.

3.   **Record Settings:** This menu item allows you to configure the video recording settings.

Power

These menu items allow you to change the power settings. Click the desired option to execute the selected action.

Active Users

This menu will display the currently active users on the server.

Help

This menu will display the help menu.

Browse File

Click this button to add or modify a CD media, then click **Start Media** to start or stop the redirection of a physical DVD/CD-ROM drive and CD image types such as iso.

3.8 Image Redirection

This menu allows you to emulate CD/DVD/Floppy/HDD Images as media drives to host.
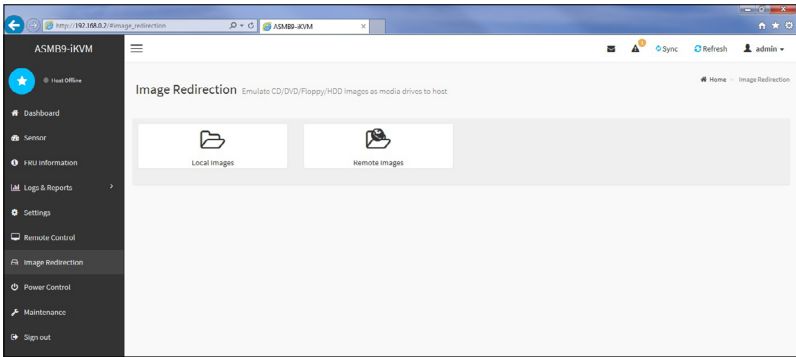
Local Media

This page allows you to select a local media to emulate to host as media through BMC.

Remote Media

This page allows you to select a remote media to emulate to host as media through BMC.

3.9 Power Control

The Power Control displays the current server power status and allows you to change the current settings. Select the desired option, and then click **Perform Action** to execute the selected action.
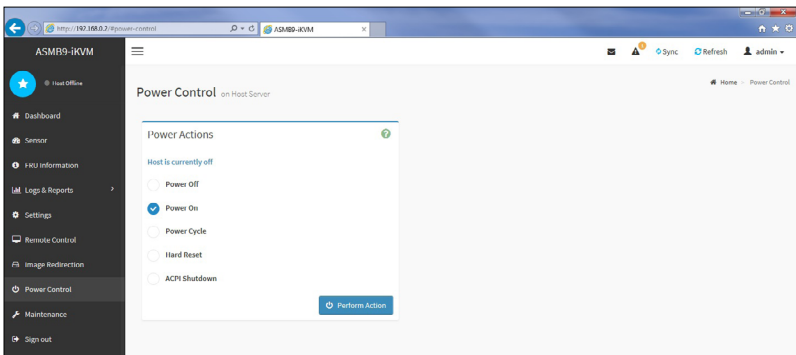
3.10 Maintenance

The Maintenance menu allows you to select specific configuration items to be preserved or to restore the default configuration for your device.
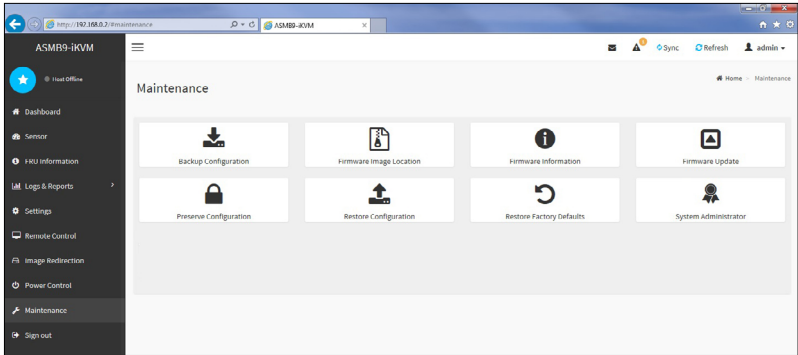
Backup Configuration

This page allows you to select specific configuration items to backup. Check the desired items and click **Download Config** to download the .bak file.

Firmware Image Location

This page allows you to select the image location type.

Firmware Information

This page displays the Build Date, Build Time, and Firmware Version of the active BMC image.

Firmware Update

This page allows you to update the firmware of the device remotely.

Preserve Configuration

This page allows you to select specific configuration items to be preserved in while performing the Restore Configuration.

Restore Configuration

This page allows you to select and upload a .bak file to restore the configuration settings.

Restore Factory Defaults

This page allows you to select configuration items that will be preserved while all the other configuration items will be restored to their default values. If none are selected, all the configuration items will be restored to their default values, essentially restoring the device configuration to its factory defaults.

System Administrator

This page allows you to change the System Administrator settings.

Appendix

The Appendix shows the location of the LAN ports for server management and BMC connector on server motherboards. This section also presents common problems that you may encounter when installing or using the server management board.

A.1   LAN ports for server management

The ASUS server motherboards that support ASMB9-iKVM comes with three (3) LAN (RJ-45) ports: one for network connection and the other two for server management.

For easy identification, the LAN ports for server management are Shared LAN and DM_LAN1 ports. You must use the Shared LAN and DM_LAN1 ports for server management to connect the remote server to the local/central host (direct LAN connection) or to the network hub or router.

Refer to the illustration below to identify the Shared LAN and DM_LAN1 ports for server management on some server motherboards.
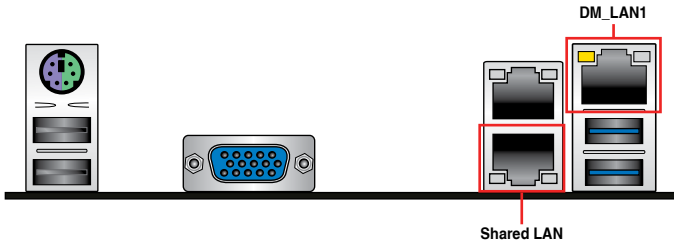
DM_LAN1

Shared LAN

> Refer to your motherboard's user guide for the location of Shared LAN and DM_LAN1 ports.

A.2   Troubleshooting

This troubleshooting guide provides answers to some common problems that you may encounter while installing and/or using ASUS ASMB9-iKVM. These problems require simple troubleshooting that you can perform by yourself. Contact the Technical Support if you encounter problems not mentioned in this section.

Problem	Solution
The local/central server cannot connect to the ASMB9-iKVM board	1. Check if the LAN cable is connected to the LAN port. 2. Make sure that the IP address of both the remote and local/central servers are on the same subnet. (Refer to chapter 2 for details.) Try "ping xx.xx.xx.xx" (remote server ip) on local/central server and make sure remote server could reply the ping request. 3. Check if the IP source is set to [DHCP]. When set to [DHCP], you'll not be able to configure the IP address.
All the SEL (System Event Log) cannot be displayed	The maximum SEL number is 900 events.
The date/time shown in SEL (System Event Log) screen is incorrect	Refer to section 4.4.9 to check if the time zone is set up correctly.
ASMB9-iKVM has network connection problems in Firewall environment	Ask MIS to add the following port numbers in Firewall: 5123 (virtual floppy) (TCP) 5120 (virtual CDROM) (TCP) 623 (IPMI) (TCP & UDP) 80 (HTTP) (TCP) 7578 (iKVM) (TCP) 443 (HTTPs) (TCP) 161 (SNMP) (UDP)
The Java redirection screen cannot be displayed normally	Click **Refresh Page** button to refresh the redirection screen.

The ASMB JAVA console only works with the onboard VGA. Other add-on video cards may not properly display the ASMB JAVA console.

A.3　　Sensor Table

Memory ECC

Sensor No.	Sensor Name	Sensor Type	Sensor Type code	Sensor Value or Event Type	Event Data 3
D1h	CPU1_ECC1	Memory ECC Sensor	0Ch	Discrete (6Fh) 0x01: Correctable ECC 0x02: Uncorrectable ECC 0x40: Presence detected	0x00h: DIMM_A1, 0x01h: DIMM_A2 0x02h: DIMM_A3, 0x03h: DIMM_A4, 0x04h: DIMM_B1, 0x05h: DIMM_B2, 0x06h: DIMM_B3, 0x07h: DIMM_B4 0x08h: DIMM_C1, 0x09h: DIMM_C2 0x0ah: DIMM_C3, 0x0bh: DIMM_C4 0x0ch: DIMM_D1, 0x0dh: DIMM_D2 0x0eh: DIMM_D3, 0x0fh: DIMM_D4 0x10h: DIMM_E1, 0x11h: DIMM_E2 0x12h: DIMM_E3, 0x13h: DIMM_E4 0x14h: DIMM_F1, 0x15h: DIMM_F2 0x16h: DIMM_F3, 0x17h: DIMM_F4 0x18h: DIMM_G1, 0x19h: DIMM_G2 0x12h: DIMM_G3, 0x1bh: DIMM_G4 0x1ch: DIMM_H1, 0x1dh: DIMM_H2 0x1dh: DIMM_H3, 0x1fh: DIMM_H4
D3h	CPU2_ECC1	Memory ECC Sensor	0Ch	Discrete (6Fh) 0x01: Correctable ECC 0x02: Uncorrectable ECC 0x40: Presence detected	0x00h: DIMM_D1, 0x01h: DIMM_D2 0x02h: DIMM_D3, 0x03h: DIMM_D4 0x04h: DIMM_E1, 0x05h: DIMM_E2 0x06h: DIMM_E3, 0x07h: DIMM_E4 0x08h: DIMM_F1, 0x09h: DIMM_F2 0x0ah: DIMM_F3, 0x0bh: DIMM_F4 0x0ch: DIMM_G1, 0x0dh: DIMM_G2 0x0eh: DIMM_G3, 0x0fh: DMM_G4 0x10h: DIMM_H1, 0x11h: DIMM_H2 0x12h: DIMM_H3, 0x13h: DIMM_H4 0x14h: DIMM_C1, 0x15h: DIMM_C2 0x16h: DIMM_C3, 0x17h: DIMM_C4 0x18h: DIMM_I1, 0x19h: DIMM_I2 0x1ah: DIMM_I3, 0x1bh: DIMM_I4 0x1ch: DIMM_J1, 0x1dh: DIMM_J2 0x1eh: DIMM_J3, 0x1fh: DIMM_J4 0x20h: DIMM_K1, 0x21h: DIMM_K2 0x22h: DIMM_K3, 0x23h: DIMM_K4 0x24h: DIMM_L1, 0x25h: DIMM_L2 0x26h: DIMM_L3, 0x27h: DIMM_L4 0x28h: DIMM_M1, 0x29h: DIMM_M2 0x2ah: DIMM_M3, 0x2bh: DIMM_M4 0x2ch: DIMM_N1, 0x2dh: DIMM_N2 0x2eh: DIMM_N3, 0x2fh: DIMM_N4 0x30h: DIMM_O1, 0x31h: DIMM_O2 0x32h: DIMM_O3, 0x33h: DIMM_O4 0x34h: DIMM_P1, 0x35h: DIMM_P2 0x36h: DIMM_P3, 0x37h: DIMM_P4

Memory Error

Sensor No.	Sensor Name	Sensor Type	Sensor Type code	Sensor Value or Event Type	Event Data 3
DBh	Memory_Train_ERR	OEM Memory Sensor	C5h	Discrete (6Fh) 0x01: Memory Train Error	0x00:DIMM_A1 0x01:DIMM_A2 0x02:DIMM_A3 0x03:DIMM_A4 0x04:DIMM_B1 0x05:DIMM_B2 0x06:DIMM_B3 0x07:DIMM_B4 0x08:DIMM_C1 0x09:DIMM_C2 0x0a:DIMM_C3 0x0b:DIMM_C4 0x0c:DIMM_D1 0x0d:DIMM_D2 0x0e:DIMM_D3 0x0f:DIMM_D4 0x10:DIMM_E1 0x11:DIMM_E2 0x12:DIMM_E3 0x13:DIMM_E4 0x14:DIMM_F1 0x15:DIMM_F2 0x16:DIMM_F3 0x17:DIMM_F4 0x18:DIMM_G1 0x19:DIMM_G2 0x1a:DIMM_G3 0x1b:DIMM_G4 0x1c:DIMM_H1 0x1d:DIMM_H2 0x1e:DIMM_H3 0x1f:DIMM_H4 0x20:DIMM_I1 0x21:DIMM_I2 0x22:DIMM_I3 0x23:DIMM_I4 0x24:DIMM_J1 0x25:DIMM_J2 0x26:DIMM_J3 0x27:DIMM_J4 0x28:DIMM_K1 0x29:DIMM_K2 0x2a:DIMM_K3 0x2b:DIMM_K4 0x2c:DIMM_L1 0x2d:DIMM_L2 0x2e:DIMM_L3 0x2f:DIMM_L4 0x30:DIMM_M1 0x31:DIMM_M2 0x32:DIMM_M3 0x33:DIMM_M4 0x34:DIMM_N1 0x35:DIMM_N2 0x36:DIMM_N3 0x37:DIMM_N4 0x38:DIMM_O1 0x39:DIMM_O2 0x3a:DIMM_O3 0x3b:DIMM_O4 0x3c:DIMM_P1 0x3d:DIMM_P2 0x3e:DIMM_P3 0x3f:DIMM_P4

Backplane HD

Sensor No.	Sensor Name	Sensor Type	Sensor Type Code	Sensor Value or Event Type
0x68	Backplane1 HD1	Drive Slot	0x0D	Discrete(0x6F) 0x01: Drive Presence 0x02: Drive Fault 0x80: Rebuild
0x69	Backplane1 HD2	Drive Slot	0x0D	Discrete(0x6F) 0x01: Drive Presence 0x02: Drive Fault 0x80: Rebuild
0x6A	Backplane1 HD3	Drive Slot	0x0D	Discrete(0x6F) 0x01: Drive Presence 0x02: Drive Fault 0x80: Rebuild
0x6B	Backplane1 HD4	Drive Slot	0x0D	Discrete(0x6F) 0x01: Drive Presence 0x02: Drive Fault 0x80: Rebuild
0x6C	Backplane1 HD5	Drive Slot	0x0D	Discrete(0x6F) 0x01: Drive Presence 0x02: Drive Fault 0x80: Rebuild
0x6D	Backplane1 HD6	Drive Slot	0x0D	Discrete(0x6F) 0x01: Drive Presence 0x02: Drive Fault 0x80: Rebuild
0x6E	Backplane1 HD7	Drive Slot	0x0D	Discrete(0x6F) 0x01: Drive Presence 0x02: Drive Fault 0x80: Rebuild
0x6F	Backplane1 HD8	Drive Slot	0x0D	Discrete(0x6F) 0x01: Drive Presence 0x02: Drive Fault 0x80: Rebuild
0x78	Backplane2 HD1	Drive Slot	0x0D	Discrete(0x6F) 0x01: Drive Presence 0x02: Drive Fault 0x80: Rebuild
0x79	Backplane2 HD2	Drive Slot	0x0D	Discrete(0x6F) 0x01: Drive Presence 0x02: Drive Fault 0x80: Rebuild
0x7A	Backplane2 HD3	Drive Slot	0x0D	Discrete(0x6F) 0x01: Drive Presence 0x02: Drive Fault 0x80: Rebuild
0x7B	Backplane2 HD4	Drive Slot	0x0D	Discrete(0x6F) 0x01: Drive Presence 0x02: Drive Fault 0x80: Rebuild
0x7C	Backplane2 HD5	Drive Slot	0x0D	Discrete(0x6F) 0x01: Drive Presence 0x02: Drive Fault 0x80: Rebuild
0x7D	Backplane2 HD6	Drive Slot	0x0D	Discrete(0x6F) 0x01: Drive Presence 0x02: Drive Fault 0x80: Rebuild
0x7E	Backplane2 HD7	Drive Slot	0x0D	Discrete(0x6F) 0x01: Drive Presence 0x02: Drive Fault 0x80: Rebuild
0x7F	Backplane2 HD8	Drive Slot	0x0D	Discrete(0x6F) 0x01: Drive Presence 0x02: Drive Fault 0x80: Rebuild

Power Supply

Sensor No.	Sensor Name	Sensor Type	Sensor Type Code	Sensor Value or Event Type
0x81	PSU1 Temp	Temperature	0x01	Threshold(0x01) Upper Non-Critical - going high Upper Critical - going high
0x82	PSU1 Fan1	FAN	0x04	Threshold(0x01) Lower Non-critical - going low Lower Critical - going low
0x83	PSU1 Fan2	FAN	0x04	Threshold(0x01) Lower Non-critical - going low Lower Critical - going low
0x92	PSU1 Over Temp	Temperature	0x01	Discrete(0x07) 0x01: Transition to OK 0x10: Transition to Non-Critical from more severe 0x40: Transition to Non-Recoverable
0x93	PSU1 FAN Low	FAN	0x04	Discrete(0x07) 0x01: Transition to OK 0x10: Transition to Non-Critical from more severe
0x94	PSU1 AC	Power Supply	0x08	Discrete(0x6F) 0x01: Presence Detected 0x08: Power Supply input lost (AC/DC)
0x95	PSU1 Slow FAN1	FAN	0x04	Discrete(0x07) 0x01: Transition to OK 0x10: Transition to Non-Critical from more severe 0x40: Transition to Non-Recoverable
0x96	PSU1 Slow FAN2	FAN	0x04	Discrete(0x07) 0x01: Transition to OK 0x10: Transition to Non-Critical from more severe 0x40: Transition to Non-Recoverable
0x97	PSU1 PWR Detect	Power Supply	0x08	Discrete(0x6F) 0x01: Presence Detected 0x02: Power Supply Failure Detected
0x84	PSU2 Temp	Temperature	0x01	Threshold(0x01) Upper Non-Critical - going high Upper Critical - going high
0x85	PSU2 Fan1	FAN	0x04	Threshold(0x01) Lower Non-critical - going low Lower Critical - going low
0x86	PSU2 Fan2	FAN	0x04	Threshold(0x01) Lower Non-critical - going low Lower Critical - going low
0x9A	PSU2 Over Temp	Temperature	0x01	Discrete(0x07) 0x01: Transition to OK 0x10: Transition to Non-Critical from more severe 0x40: Transition to Non-Recoverable
0x9B	PSU2 FAN Low	FAN	0x04	Discrete(0x07) 0x01: Transition to OK 0x10: Transition to Non-Critical from more severe
0x9C	PSU2 AC Lost	Power Supply	0x08	Discrete(0x6F) 0x01: Presence Detected 0x08: Power Supply input lost (AC/DC)
0x9D	PSU2 Slow FAN1	FAN	0x04	Discrete(0x07) 0x01: Transition to OK 0x10: Transition to Non-Critical from more severe 0x40: Transition to Non-Recoverable
0x9E	PSU2 Slow FAN2	FAN	0x04	Discrete(0x07) 0x01: Transition to OK 0x10: Transition to Non-Critical from more severe 0x40: Transition to Non-Recoverable
0x9F	PSU2 PWR Detect	Power Supply	0x08	Discrete(0x6F) 0x01: Presence Detected 0x02: Power Supply Failure Detected

Hardware Monitor

Lun	No	Sensor Name	Sensor Type	Sensor Type Code	Sensor Value or Event Type
00h	31h	CPU1 Temperature	Temperature	01h	Threshold (01h)
					Upper Non-critical - going high
					Upper Critical - going high
00h	32h	CPU2 Temperature	Temperature	01h	Threshold (01h)
					Upper Non-critical - going high
					Upper Critical - going high
00h	33h	MB Temperature	Temperature	01h	Threshold (01h)
					Upper Non-critical - going high
					Upper Critical - going high
00h	cch	TR1 Temperature	Temperature	01h	Threshold (01h)
					Upper Non-critical - going high
					Upper Critical - going high
00h	cdh	TR2 Temperature	Temperature	01h	Threshold (01h)
					Upper Non-critical - going high
					Upper Critical - going high
00h	c6h	TR3 Temperature	Temperature	01h	Threshold (01h)
					Upper Non-critical - going high
					Upper Critical - going high
00h	c7h	TR4 Temperature	Temperature	01h	Threshold (01h)
					Upper Non-critical - going high
					Upper Critical - going high
00h	ceh	TR5 Temperature	Temperature	01h	Threshold (01h)
					Upper Non-critical - going high
					Upper Critical - going high
00h	cfh	TR6 Temperature	Temperature	01h	Threshold (01h)
					Upper Non-critical - going high
					Upper Critical - going high
00h	34h	+VCORE1	Voltage	02h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
					Upper Non-critical - going high
					Upper Critical - going high
00h	35h	+VCORE2	02h Voltage	02h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
					Upper Non-critical - going high
					Upper Critical - going high

(continued on the next page)

Lun	No	Sensor Name	Sensor Type	Sensor Type Code	Sensor Value or Event Type
00h	36h	+3.3V	Voltage	02h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
					Upper Non-critical - going high
					Upper Critical - going high
00h	37h	+5V	Voltage	02h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
					Upper Non-critical - going high
					Upper Critical - going high
00h	38h	+12V	Voltage	02h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
					Upper Non-critical - going high
					Upper Critical - going high
00h	3bh	+5VSB	Voltage	02h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
					Upper Non-critical - going high
					Upper Critical - going high
00h	3ch	VBAT	Voltage	02h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
					Upper Non-critical - going high
					Upper Critical - going high
00h	40h	+3.3VSB	Voltage	02h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
					Upper Non-critical - going high
					Upper Critical - going high
00h	4dh	+VDDQ_ABC_CPU1	Voltage	02h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
					Upper Non-critical - going high
					Upper Critical - going high
00h	4eh	+VDDQ_DEF_CPU1	Voltage	02h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
					Upper Non-critical - going high
					Upper Critical - going high

(continued on the next page)

Lun	No	Sensor Name	Sensor Type	Sensor Type Code	Sensor Value or Event Type
00h	50h	+VDDQ_GHJ_CPU2	Voltage	02h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
					Upper Non-critical - going high
					Upper Critical - going high
00h	51h	+VDDQ_KLM_CPU2	Voltage	02h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
					Upper Non-critical - going high
					Upper Critical - going high
00h	c3h	+VCCIO1	Voltage	02h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
					Upper Non-critical - going high
					Upper Critical - going high
01h	30h	+VCCIO2	Voltage	02h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
					Upper Non-critical - going high
					Upper Critical - going high
01h	B0h	VSOC1 (For AMD platform only)	Voltage	02h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
					Upper Non-critical - going high
					Upper Critical - going high
01h	B1h	VSOC2 (For AMD platform only)	Voltage	02h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
					Upper Non-critical - going high
					Upper Critical - going high
01h	B2h	+VDDIO_ABCD_CPU1 (For AMD platform only)	Voltage	02h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
					Upper Non-critical - going high
					Upper Critical - going high
01h	B3h	+VDDIO_EFGH_CPU1 (For AMD platform only)	Voltage	02h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
					Upper Non-critical - going high
					Upper Critical - going high

Lun	No	Sensor Name	Sensor Type	Sensor Type Code	Sensor Value or Event Type
01h	B4h	+VDDIO_IJKL_CPU2 (For AMD platform only)	Voltage	02h	Threshold (01h) Lower Non-critical - going low Lower Critical - going low Upper Non-critical - going high Upper Critical - going high
01h	B5h	+VDDIO_MNOP_CPU2 (For AMD platform only)	Voltage	02h	Threshold (01h) Lower Non-critical - going low Lower Critical - going low Upper Non-critical - going high Upper Critical - going high
00h	A0h	CPU_FAN1	Fan	04h	Threshold (01h) Lower Non-critical - going low Lower Critical - going low
00h	A1h	CPU_FAN2	Fan	04h	Threshold (01h) Lower Non-critical - going low Lower Critical - going low
00h	A2h	FRNT_FAN1	Fan	04h	Threshold (01h) Lower Non-critical - going low Lower Critical - going low
00h	A3h	FRNT_FAN2	Fan	04h	Threshold (01h) Lower Non-critical - going low Lower Critical - going low
00h	A4h	FRNT_FAN3	Fan	04h	Threshold (01h) Lower Non-critical - going low Lower Critical - going low
00h	A5h	FRNT_FAN4	Fan	04h	Threshold (01h) Lower Non-critical - going low Lower Critical - going low
00h	A6h	REAR_FAN1	Fan	04h	Threshold (01h) Lower Non-critical - going low Lower Critical - going low
00h	A7h	REAR_FAN2	Fan	04h	Threshold (01h) Lower Non-critical - going low Lower Critical - going low
00h	A8h	FRNT_FAN5	Fan	04h	Threshold (01h) Lower Non-critical - going low Lower Critical - going low
00h	A9h	FRNT_FAN6	Fan	04h	Threshold (01h) Lower Non-critical - going low Lower Critical - going low

(continued on the next page)

Lun	No	Sensor Name	Sensor Type	Sensor Type Code	Sensor Value or Event Type
00h	AAh	FRNT_FAN7	Fan	04h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
00h	ABh	FRNT_FAN8	Fan	04h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
00h	ACh	SYS_FAN1	Fan	04h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
00h	39h	SYS_FAN2	Fan	04h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
00h	3Ah	SYS_FAN3	Fan	04h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low
00h	3Fh	SYS_FAN4	Fan	04h	Threshold (01h)
					Lower Non-critical - going low
					Lower Critical - going low

CPU CATERR

Sensor No.	Sensor Name	Sensor Type	Sensor Type Code	Sensor Value or Event Type
0xDA	CPU_CATERR	Processor	07h	Discrete (6Fh) 0x01: IERR

Simplified EU Declaration of Conformity

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Magyar Az ASUSTeK Computer Inc. ezennel kijelenti, hogy ez az eszköz megfelel a kapcsolódó Irányelvek lényeges követelményeinek és egyéb vonatkozó rendelkezéseinek. Az EU megfelelőségi nyilatkozat teljes szövege innen letölthető: www.asus.com/support

Latviski ASUSTeK Computer Inc. ar šo paziņo, ka šī ierīce atbilst saistīto Direktīvu būtiskajām prasībām un citiem citiem saistošajiem nosacījumiem. Pilns ES atbilstības paziņojuma teksts pieejams šeit: www.asus.com/support

Lietuvių „ASUSTeK Computer Inc." šiuo tvirtina, kad šis įrenginys atitinka pagrindinius reikalavimus ir kitas svarbias susijusių direktyvų nuostatas. Visą ES atitikties deklaracijos tekstą galima rasti: www.asus.com/support

Norsk ASUSTeK Computer Inc. erklærer herved at denne enheten er i samsvar med hovedsaklige krav og andre relevante forskrifter i relaterte direktiver. Fullstendig tekst for EU-samsvarserklæringen finnes på: www.asus.com/support

Polski Firma ASUSTeK Computer Inc. niniejszym oświadcza, że urządzenie to jest zgodne z zasadniczymi wymogami i innymi właściwymi postanowieniami powiązanych dyrektyw. Pełny tekst deklaracji zgodności UE jest dostępny pod adresem: www.asus.com/support

Português A ASUSTeK Computer Inc. declara que este dispositivo está em conformidade com os requisitos essenciais e outras disposições relevantes das Diretivas relacionadas. Texto integral da declaração da UE disponível em: www.asus.com/support

Română ASUSTeK Computer Inc. declară că acest dispozitiv se conformează cerințelor esențiale și altor prevederi relevante ale directivelor conexe. Textul complet al declarației de conformitate a Uniunii Europene se găsește la: www.asus.com/support

Srpski ASUSTeK Computer Inc. ovim izjavljuje da je ovaj uređaj u saglasnosti sa osnovnim zahtevima i drugim relevantnim odredbama povezanih Direktiva. Pun tekst EU deklaracije o usaglašenosti je dostupan da adresi: www.asus.com/support

Slovensky Spoločnosť ASUSTeK Computer Inc. týmto vyhlasuje, že toto zariadenie vyhovuje základným požiadavkám a ostatým príslušným ustanoveniam príslušných smerníc. Celý text vyhlásenia o zhode pre štáty EÚ je dostupný na adrese: www.asus.com/support

Slovenščina ASUSTeK Computer Inc. izjavlja, da je ta naprava skladna z bistvenimi zahtevami in drugimi ustreznimi določbami povezanih direktiv. Celotno besedilo EU-izjave o skladnosti je na voljo na spletnem mestu: www.asus.com/support

Español Por la presente, ASUSTeK Computer Inc. declara que este dispositivo cumple los requisitos básicos y otras disposiciones pertinentes de las directivas relacionadas. El texto completo de la declaración de la UE de conformidad está disponible en: www.asus.com/support

Svenska ASUSTeK Computer Inc. förklarar härmed att denna enhet överensstämmer med de grundläggande kraven och andra relevanta föreskrifter i relaterade direktiv. Fulltext av EU-försäkran om överensstämmelse finns på: www.asus.com/support

Українська ASUSTeK Computer Inc. заявляє, що цей пристрій відповідає основним вимогам та іншим відповідним положенням відповідних Директив. Повний текст декларації відповідності стандартам ЄС доступний на: www.asus.com/support

Türkçe AsusTek Computer Inc., bu aygıtın temel gereksinimlerle ve ilişkili Yönergelerin diğer ilgili koşullarıyla uyumlu olduğunu beyan eder. AB uygunluk bildiriminin tam metni şu adreste bulunabilir: www.asus.com/support

Bosanski ASUSTeK Computer Inc. ovim izjavljuje da je ovaj uređaj usklađen sa bitnim zahtjevima i ostalim odgovarajućim odredbama vezanih direktiva. Cijeli tekst EU izjave o usklađenosti dostupan je na: www.asus.com/support

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