



AST2150 IPMI Configuration Guide

Version 1.1

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1. IPMI OS Drivers and Open Source Software

AST2150 firmware is full compliant with IPMI 2.0 specification. So users could use standard IPMI driver comes from operation system distribution.

1.1 Windows IPMI Driver

AST2150 supports Intel reference driver, you can get it from

<http://www.intel.com/design/servers/ipmi/tools.htm>.

From Windows Server 2003 R2, Microsoft also provide in box IPMI driver. You can use it also.

1.2 Open IPMI Driver on Linux

AST2150 supports the Open IPMI driver in Linux Kernel. Use the following commands to load ipmi drivers.

```
"modprobe ipmi_devintf"
```

```
"modprobe ipmi_si"
```

If you use old version Linux Kernel, you need to replace module "ipmi_si" with "ipmi_kcs"

Note that TYAN motherboard BIOS encodes IPMI Base IO address at 0xCA2 in its DMI table IPMI entry, any generic OS IPMI drivers should have no problem to support it.

1.3 IPMITool and Other Open Source Software

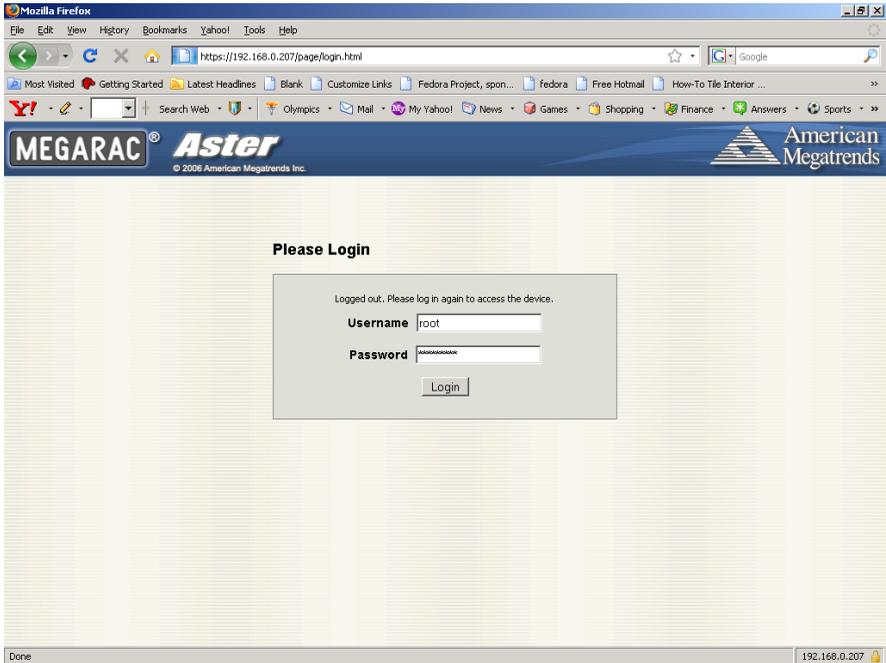
AST2150 supports open source software IPMITool, you can also use other ones like OpenIPMI, IPMI Util. Note that for IPMITool SOL session, user needs to use BIOS setup menu to configure "Remote Serial Console Redirect" to use COMA, and set baud rate to 38.4K, 8 bits, no parity, and Xon/Xoff handshaking.

NOTE

2. ASTER GUI

2.1 ASTER GUI Overview

The AST2150 has a user-friendly Graphics User Interface (GUI) called the **Aster GUI**. It is designed to be easy to use. It has a low learning curve because it uses a standard Internet browser. You can expect to be up and running in less than five minutes.



You will be prompted to enter a user name and password. The default user name and password are as follows:

Field	Default
Username	root
Password	superuser

NOTE:

The default user name and password are in lower-case characters. When you log in using the root user name and password, you have full administrative powers. It is advised that once you log in, you change the root password.

2.2 System Information

This page shows system power on status and firmware revision and its release date.

The screenshot shows a Mozilla Firefox browser window with the address bar displaying `https://192.168.0.207/index.html`. The browser's toolbar includes navigation buttons (back, forward, home, stop, refresh) and a search bar with the Google logo. Below the browser window, the MEGARAC Aster web interface is visible. The header features the MEGARAC logo, the product name "Aster", and the copyright notice "© 2006 American Megatrends Inc.". A navigation menu includes links for "System Information", "Server Health", "Configuration", "Remote Control", "Maintenance", and "Languages". The main content area is titled "System Information" and contains a "Summary" section with the following details:

- Device Power Status : On
- Firmware Revision : 0.1.28014
- AuxFirmwareRevision : 28014
- Build Time : Jul 18 2008 10:34:27

The browser's status bar at the bottom shows "Done" and the IP address "192.168.0.207".

2.3 Server Health

This page contains options to show motherboard sensor readings and events. SDR, Sensor reading, Sensor events (System event log), and PEF (Platform event filters) are implemented in compliant with ipmi2.0 specification.

The screenshot shows a Mozilla Firefox browser window displaying the 'Server Health' page of the MEGARAC Aster management interface. The browser's address bar shows the URL 'https://192.168.0.207/index.html'. The page header includes the MEGARAC Aster logo and the American Megatrends logo. Below the header, there are navigation tabs for 'System Information', 'Server Health', 'Configuration', 'Remote Control', 'Maintenance', and 'Languages'. The 'Server Health' tab is active, and the page title is 'Server Health'. The main content area contains a sub-section titled 'Options' with three selectable options: 'Sensor Readings', 'Sensor Readings with Thresholds', and 'Event Log'. Each option has a corresponding description: 'See the readings from the various sensors', 'See the readings from the various sensors, with thresholds included in the table', and 'See the events written to the event log'. The browser's status bar at the bottom shows 'Done' and the IP address '192.168.0.207'.

2.3.1 Sensor Reading

The screenshot shows a Mozilla Firefox browser window with the URL `https://192.168.0.207/index.html`. The page header includes the MEGARAC Aster logo and the American Megatrends logo. The navigation menu contains: System Information, **Server Health**, Configuration, Remote Control, Maintenance, and Languages. A HELP icon is also present.

Server Health

This section shows you data related to the server's health, such as sensor readings and the event log.

Options

- Server Health
 - Sensor Readings**
 - Event Log
- Refresh Page
- Logout

Sensor Readings

This page displays system sensor information, including readings and status. You can toggle viewing the thresholds for the sensors by pressing the Show Thresholds button below.

Select a sensor type category:

Sensor Readings: 6 sensors

Name	Status	Reading
GPIO5	Lower Non-Critical Lower Critical	-128 degrees C
GPIO10	Lower Non-Critical Lower Critical	-128 degrees C
GPIO21	Lower Non-Critical Lower Critical	-128 degrees C
GPIO37	Lower Non-Critical Lower Critical	-128 degrees C
GPIO43	Lower Non-Critical Lower Critical	-128 degrees C
GPIO49	Lower Non-Critical Lower Critical	-128 degrees C

Done 192.168.0.207

2.3.2 Sensor Reading with Thresholds

Mozilla Firefox
 File Edit View History Bookmarks Yahoo! Tools Help
 https://192.168.0.207/index.html
 Search Web
 Olympics Mail My Yahoo! News Games Shopping Finance Answers Sports
MEGARAC Aster © 2006 American Megatrends Inc. American Megatrends
 System Information **Server Health** Configuration Remote Control Maintenance Languages ? HELP

Server Health
 This section shows you data related to the server's health, such as sensor readings and the event log.

Options
 Server Health
 Sensor Readings
 Event Log
 Refresh Page
 Logout

Sensor Readings
 This page displays system sensor information, including readings and status. You can toggle viewing the thresholds for the sensors by pressing the Show Thresholds button below.
 Select a sensor type category:
 All Sensors

Sensor Readings: 6 sensors

Name	Status	Reading	Low NR	Low CT	Low NC	High NC	High CT	High NR
GPI05	Lower Non-Critical Lower Critical	-128 degrees C	-128 degrees C	3 degrees C	8 degrees C	42 degrees C	47 degrees C	127 degrees C
GPI010	Lower Non-Critical Lower Critical	-128 degrees C	-128 degrees C	3 degrees C	8 degrees C	42 degrees C	47 degrees C	127 degrees C
GPI021	Lower Non-Critical Lower Critical	-128 degrees C	-128 degrees C	3 degrees C	8 degrees C	42 degrees C	47 degrees C	127 degrees C
GPI037	Lower Non-Critical Lower Critical	-128 degrees C	-128 degrees C	3 degrees C	8 degrees C	42 degrees C	47 degrees C	127 degrees C
GPI043	Lower Non-Critical Lower Critical	-128 degrees C	-128 degrees C	3 degrees C	8 degrees C	42 degrees C	47 degrees C	127 degrees C
GPI049	Lower Non-Critical Lower Critical	-128 degrees C	-128 degrees C	3 degrees C	8 degrees C	42 degrees C	47 degrees C	127 degrees C

Refresh Hide Thresholds

Done 192.168.0.207

2.3.3 Event Log

MEGARAC Aster
© 2006 American Megatrends Inc.

System Information | **Server Health** | Configuration | Remote Control | Maintenance | Languages ? HELP

Server Health

This section shows you data related to the server's health, such as sensor readings and the event log.

Options

- Server Health
 - Sensor Readings
 - Event Log**
 - Refresh Page
 - Logout

Event Log

Below is a table of the events from the system's event log. You can choose a category from the pull-down box to filter the events, and also sort them by clicking on a column header.

Select an event log category:
Sensor-Specific Events

Event Log: 60 event entries

Event ID /	Time Stamp /	Sensor Name /	Sensor Type /	Description /
13	12/31/2006 16:00:02	GPIO5	Temperature	[0] - Asserted
14	12/31/2006 16:00:02	GPIO5	Temperature	[2] - Asserted
15	12/31/2006 16:00:02	GPIO10	Temperature	[0] - Asserted
16	12/31/2006 16:00:02	GPIO10	Temperature	[2] - Asserted
17	12/31/2006 16:00:02	GPIO21	Temperature	[0] - Asserted
18	12/31/2006 16:00:02	GPIO21	Temperature	[2] - Asserted
19	12/31/2006 16:00:02	GPIO37	Temperature	[0] - Asserted
20	12/31/2006 16:00:02	GPIO37	Temperature	[2] - Asserted
21	12/31/2006 16:00:02	GPIO43	Temperature	[0] - Asserted
22	12/31/2006 16:00:02	GPIO43	Temperature	[2] - Asserted

Clear Event Log

Done 192.168.0.207

2.4 Configuration

This page contains options to configure Alerts, Mouse mode, Network, SMTP, Users, and Date Time NTP Settings.

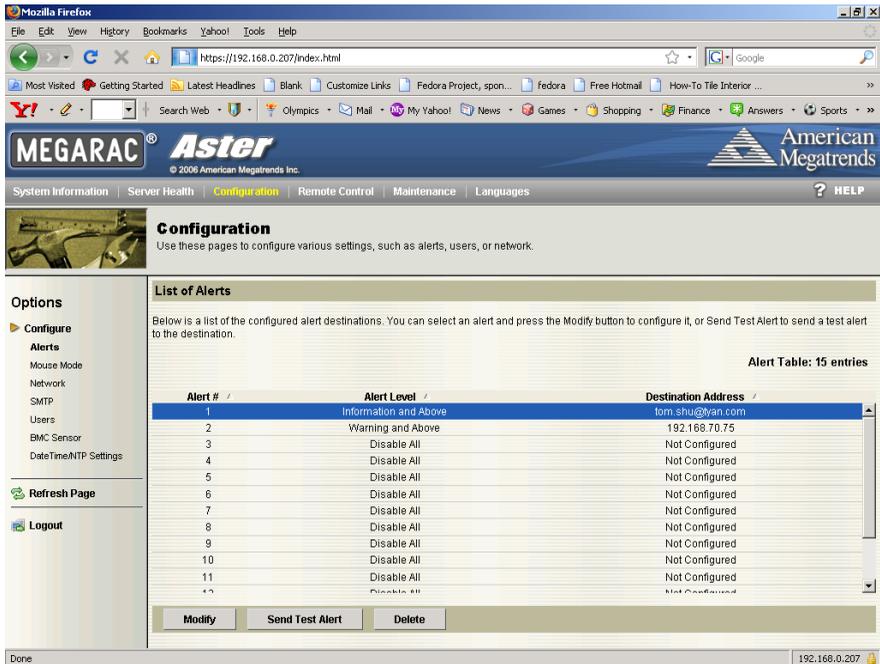
The screenshot shows a Mozilla Firefox browser window displaying the Aster configuration interface. The address bar shows the URL `https://192.168.0.207/index.html`. The page header includes the MEGARAC Aster logo and the American Megatrends logo. Below the header, there are navigation tabs for System Information, Server Health, Configuration (selected), Remote Control, Maintenance, and Languages. A HELP icon is also present. The main content area is titled "Configuration" and includes a sub-header "Options" with a list of configuration categories and their descriptions:

Options	Description
Alerts	Add, edit or remove alert destinations
Mouse mode	Change the mouse mode
Network	See the MAC address or change network settings, including dynamic and static IP assignment
SMTP	Configure the SMTP email server
Users	Add, edit, or remove users
BMC Sensor	Setup the BMC Sensor Address or change mode
DateTimeNTP Settings	Configure the DateTime or NTP server

The left sidebar contains a "Configure" section with links to Alerts, Mouse Mode, Network, SMTP, Users, BMC Sensor, and DateTime/NTP Settings. Below this are "Refresh Page" and "Logout" buttons. The status bar at the bottom shows "Done" and the IP address "192.168.0.207".

2.4.1 Alerts

This page lists configured alert destinations, use modify button to configure it, or send a test alert to the destination.



The screenshot shows a web browser window displaying the Aster configuration interface. The page title is 'Configuration' and it includes a navigation menu with options like 'System Information', 'Server Health', 'Configuration', 'Remote Control', 'Maintenance', and 'Languages'. The main content area is titled 'List of Alerts' and contains a table of configured alert destinations. The table has three columns: 'Alert #', 'Alert Level', and 'Destination Address'. The first row is highlighted, showing an alert level of 'Information and Above' and a destination address of 'tom.shu@yan.com'. Below the table are three buttons: 'Modify', 'Send Test Alert', and 'Delete'. The status bar at the bottom of the browser shows 'Done' and the IP address '192.168.0.207'.

Alert #	Alert Level	Destination Address
1	Information and Above	tom.shu@yan.com
2	Warning and Above	192.168.70.75
3	Disable All	Not Configured
4	Disable All	Not Configured
5	Disable All	Not Configured
6	Disable All	Not Configured
7	Disable All	Not Configured
8	Disable All	Not Configured
9	Disable All	Not Configured
10	Disable All	Not Configured
11	Disable All	Not Configured
12	Disable All	Not Configured

This Modify Alert page contains drop down menu's and fields to configure alert types (email, SNMP traps), event severity, destination IP/Email address, and subject etc.

Mozilla Firefox

File Edit View History Bookmarks Yahoo! Tools Help

https://192.168.0.207/index.html

MEGARAC Aster American Megatrends

System Information Server Health Configuration Remote Control Maintenance Languages HELP

Configuration

Use these pages to configure various settings, such as alerts, users, or network.

Options

- Configure
 - Alerts
 - Mouse Mode
 - Network
 - SMTP
 - Users
 - BMC Sensor
 - Date/Time/NTP Settings
- Refresh Page
- Logout

Modify Alert

Enter the information for the alert below and press Save.

Alert Type:

Event Severity:

Destination IP:

Email Address:

Subject:

Message:

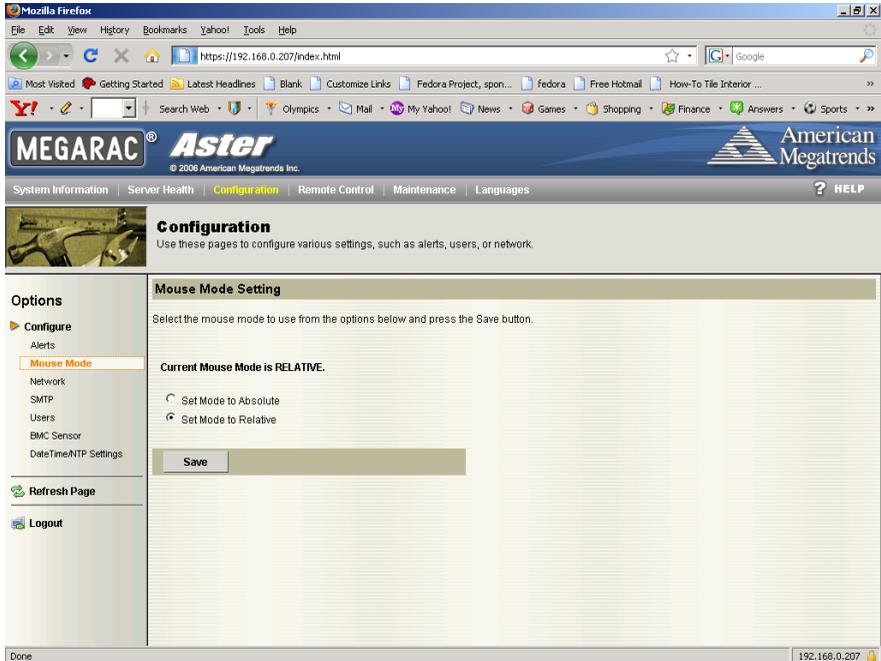
Done 192.168.0.207

2.4.2 Mouse Mode

This configuration depends on the OS installed on Local Host. Note, it's OS on local host with AST2150, not the remote console.

Most modern Windows versions(2000/XP/2003/Vista/2008) and Mac OS X, use the Absolute Mode.

Relative mode is used by most Linux distributions (SuSE, RHEL) and older operating system like Windows 95/98.



2.4.3 Network

Use this page to view and configure network settings.

The screenshot shows a Mozilla Firefox browser window with the address bar displaying `https://192.168.0.207/index.html`. The page header includes the MEGARAC Aster logo and the text "© 2006 American Megatrends Inc." along with a navigation menu: System Information | Server Health | **Configuration** | Remote Control | Maintenance | Languages. A "HELP" link is also present.

The main content area is titled "Configuration" and contains a sub-section for "Network Settings". Below this, a message states: "You can view and modify the network settings on this page. Select whether to obtain an IP address automatically or manually configure one."

The configuration form includes the following fields and options:

- MAC Address:** `00:E0:81:B2:5D:90`
- IP Address:** `192.168.0.207`
- Subnet Mask:** `255.255.255.0`
- Default Gateway:** `192.168.0.1`

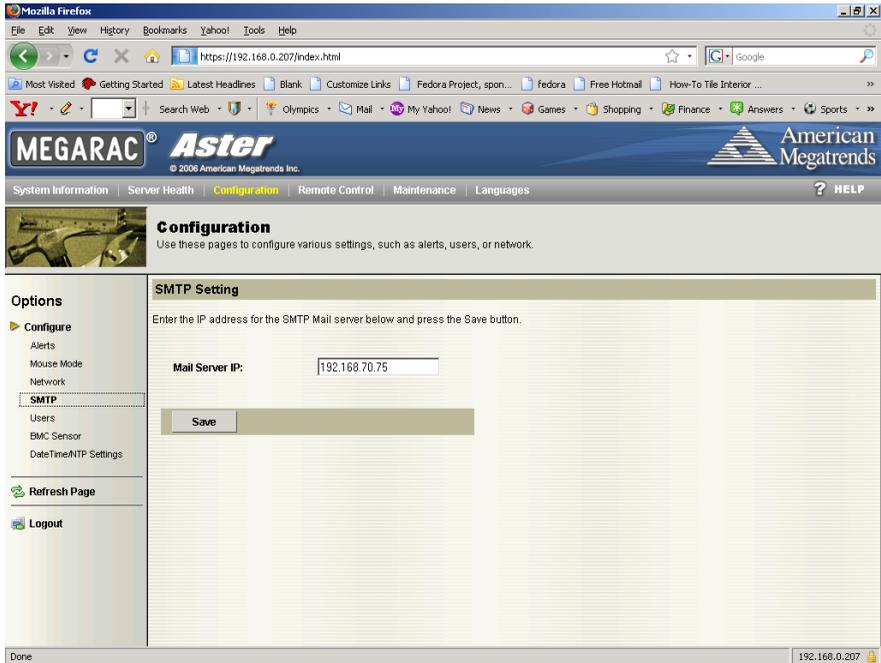
Options for IP address configuration:

- Obtain an IP address automatically (Use DHCP)
- Use the following IP address

A "Save" button is located at the bottom of the configuration area. The browser's status bar at the bottom shows "Done" and the IP address "192.168.0.207".

2.4.4 SMTP

For email alert, Enter and Save the SMTP mail server IP in this page.



The screenshot shows a Mozilla Firefox browser window displaying the configuration page for the MEGARAC Aster system. The address bar shows the URL `https://192.168.0.207/index.html`. The page header includes the MEGARAC Aster logo and the American Megatrends logo. Below the header, there is a navigation menu with options like System Information, Server Health, Configuration, Remote Control, Maintenance, and Languages. The main content area is titled "Configuration" and contains a sub-section for "SMTP Setting". This section includes a text input field for "Mail Server IP" with the value "192.168.70.75" and a "Save" button. A sidebar on the left lists various configuration options, with "SMTP" highlighted. The status bar at the bottom of the browser window shows "Done" and the IP address "192.168.0.207".

Options

- Configure
 - Alerts
 - Mouse Mode
 - Network
 - SMTP**
 - Users
 - BMC Sensor
 - Date/Time/NTP Settings
- Refresh Page
- Logout

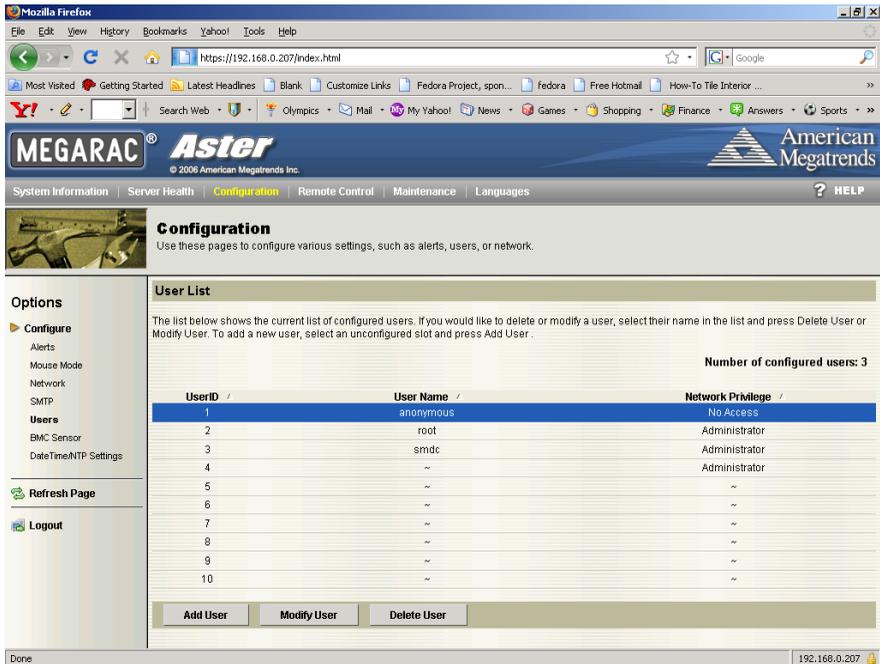
SMTP Setting

Enter the IP address for the SMTP Mail server below and press the Save button.

Mail Server IP:

2.4.5 Users

Use this page to add, modify, and delete users. You may select “modify user” and then change each user’s name, password, and privileges.



The screenshot shows a Mozilla Firefox browser window displaying the Aster configuration page. The page title is "Configuration" and it contains a "User List" section. The "User List" section includes a table with the following data:

UserID	User Name	Network Privilege
1	anonymous	No Access
2	root	Administrator
3	smdc	Administrator
4	~	Administrator
5	~	~
6	~	~
7	~	~
8	~	~
9	~	~
10	~	~

Below the table are three buttons: "Add User", "Modify User", and "Delete User".

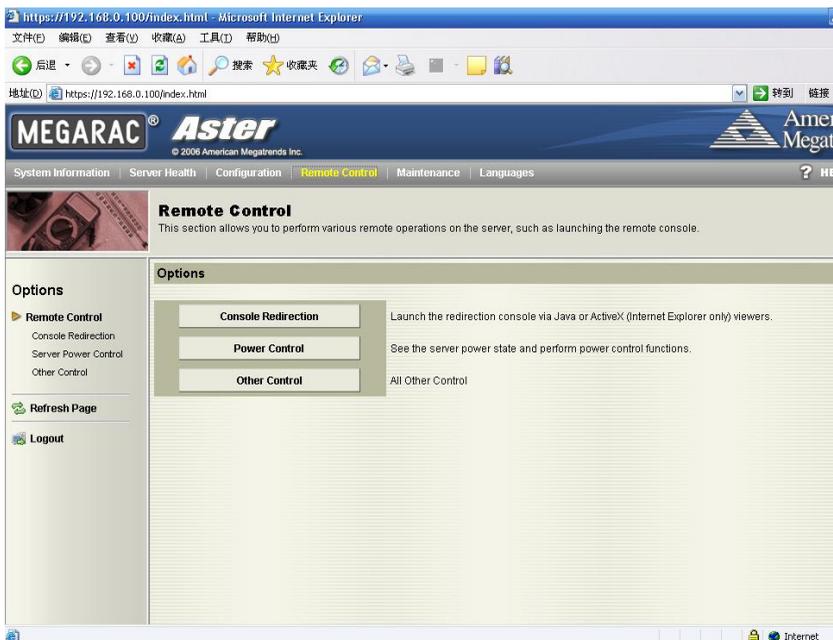
2.4.6 Date Time/NTP Settings

Select options to set date/time.

The screenshot shows a Mozilla Firefox browser window displaying the Aster configuration page. The browser's address bar shows the URL `https://192.168.0.207/index.html`. The page header includes the 'MEGARAC Aster' logo and 'American Megatrends' branding. A navigation menu contains links for 'System Information', 'Server Health', 'Configuration', 'Remote Control', 'Maintenance', and 'Languages'. The main content area is titled 'Configuration' and includes a sub-section 'Date/Time and NTP Server Setting'. This section contains a 'Time Zone' dropdown menu and a 'Setup' button. Below this, there are two radio button options: 'User specified time' and 'Synchronize with NTP server'. The 'User specified time' option includes input fields for 'Date' (mm / dd / yyyy) and 'Time' (hh : mm : ss). The 'Synchronize with NTP server' option includes input fields for 'Primary Time Server' and 'Secondary Time Server'. A note at the bottom of the section states: 'The NTP Server configuration will be cleared if IP auto configuration is configured to either BOOTP or DHCP in the Network settings and the DHCP/BOOTP server is not providing the NTP server information.' A 'Save' button is located at the bottom of the configuration area. On the left side of the page, there is an 'Options' sidebar with a 'Configure' section containing links for Alerts, Mouse Mode, Network, SMTP, Users, BMC Sensor, and 'Date/Time/NTP Settings' (which is highlighted). Below the 'Configure' section are 'Refresh Page' and 'Logout' links. The browser's status bar at the bottom shows 'Done' and the IP address '192.168.0.207'.

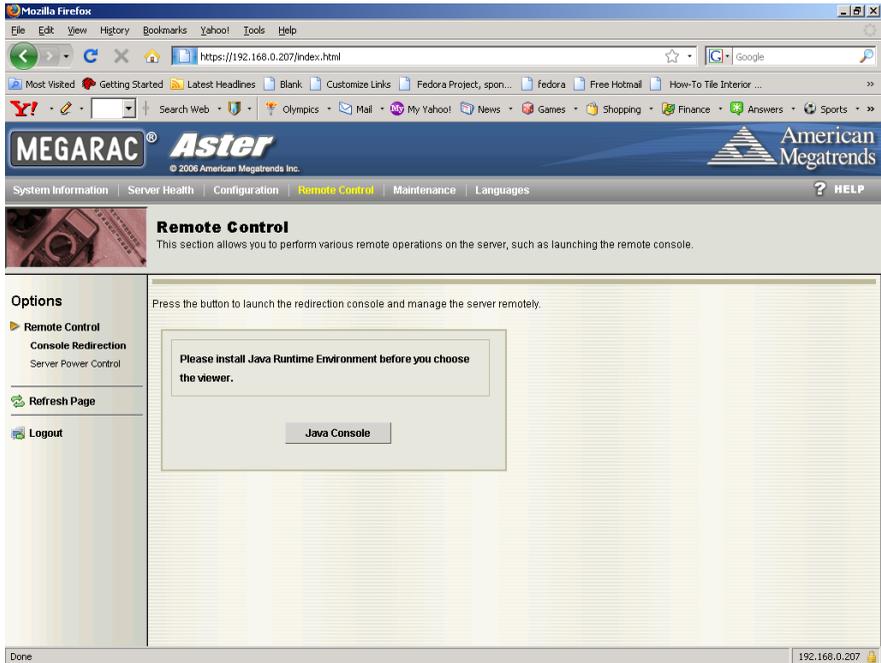
2.5 Remote Control

This page allows user to perform various remote operations such as “Console Redirection” , “Power Control” and “ Other Control”.



2.5.1 Remote Console Redirection

Press “Java Console” button to invoke JViewer to start KVM-over-IP session.



For IPMI only SKU, button “Java Console” will be grayed out and make sure users couldn’t use KVM-over-IP feature.

Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://192.168.0.127/index.html

Getting Started Latest Headlines

MEGARAC[®] Aster
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American Megatrends

System Information Server Health Configuration **Remote Control** Maintenance Group Control Languages ? HELP

Remote Control

This section allows you to perform various remote operations on the server, such as launching the remote console.

Options

- ▶ **Remote Control**
 - Console Redirection
 - Server Power Control
 - Other Control
- ▶ Refresh Page
- ▶ Logout

Press the button to launch the

Please install Java Run the viewer.

It's IPMI only firmware, no KVM support

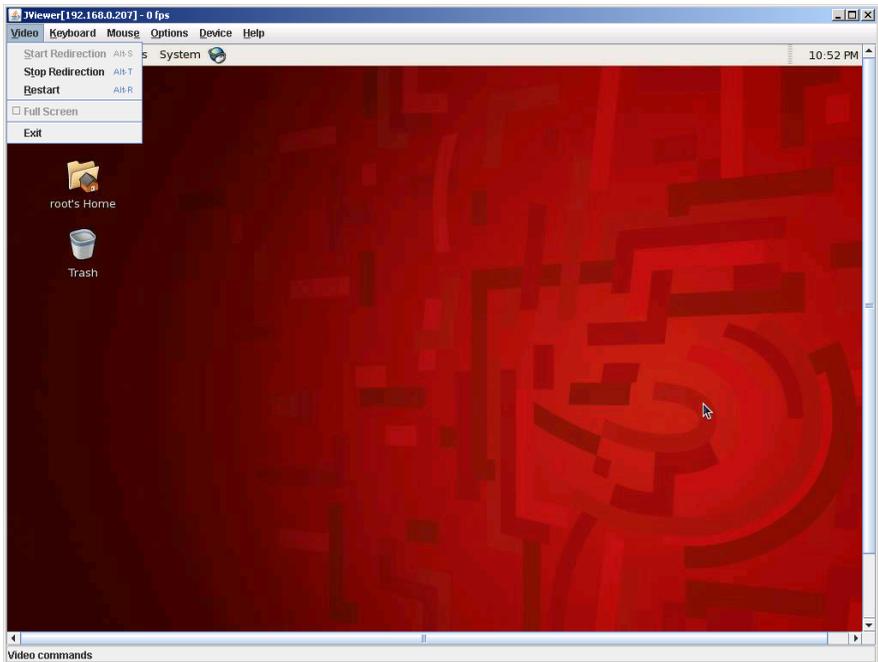
OK

Java Console

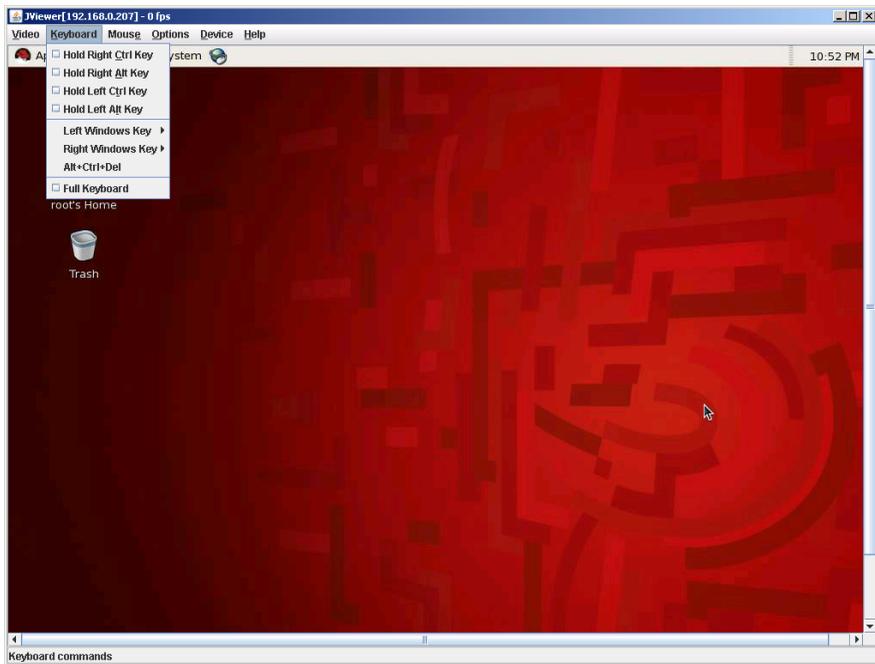
Done 192.168.0.127

start bnp Mozilla Firefox 6:31 AM

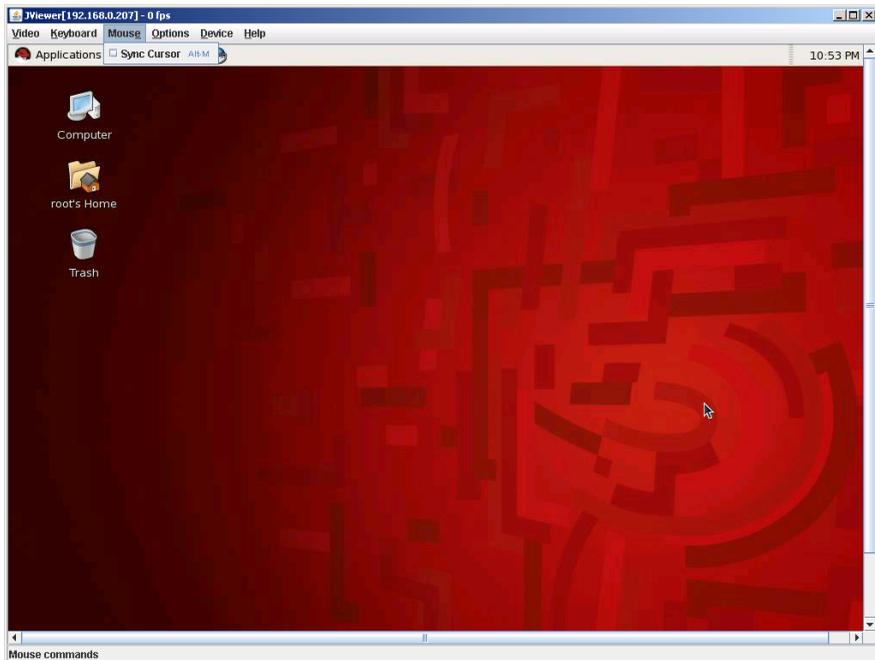
Use JViewer <Video> menu to stop/restart/exit console redirect session.



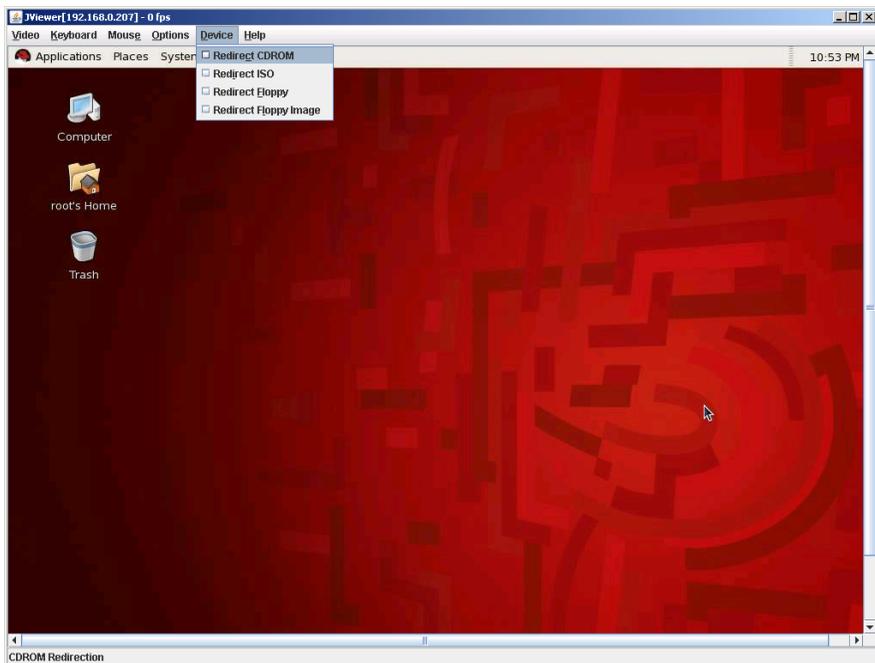
To avoid OS to intercept and interpret special key combinations, you may need to use this drop down menu to send special Key combinations to remote OS.



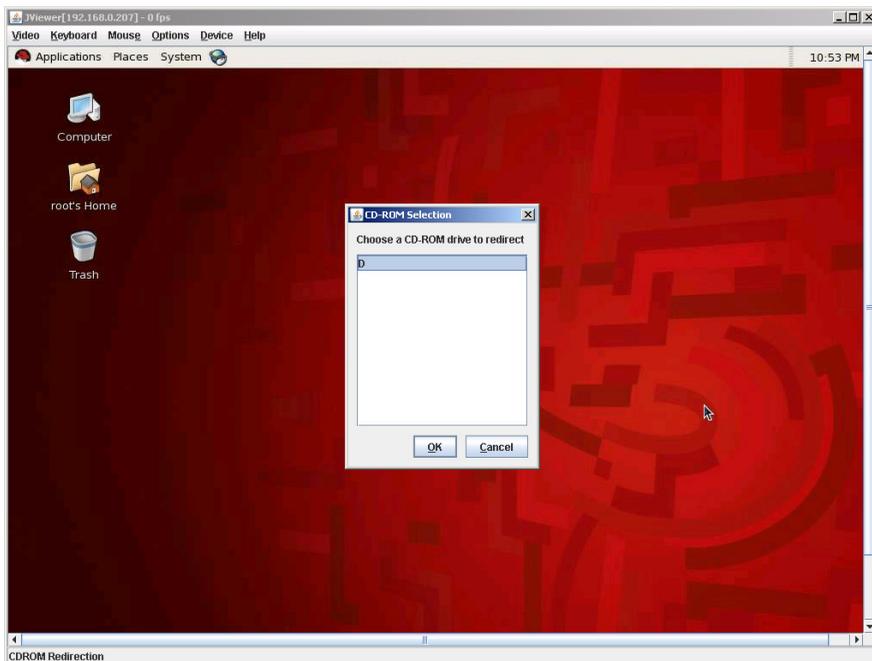
Select <Mouse sync > to allow mouse work correctly within the JViewer redirected remote screen (in sync with remote OS). Press <alt-M> to release “mouse sync” and return mouse control to local OS.



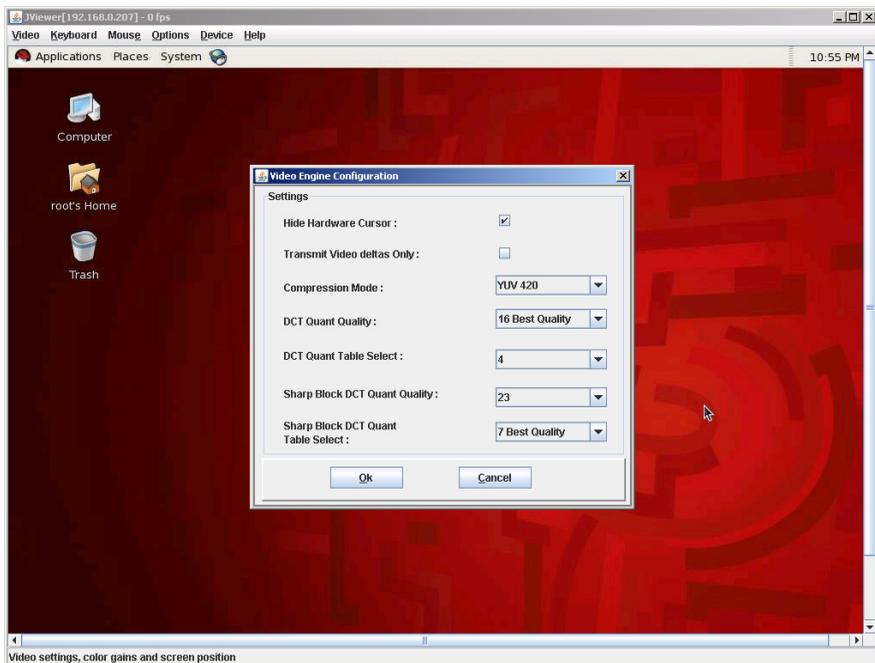
Remote CDROM /Floppy redirection selection.



Choose a local CDROM drive to redirect. Note that you need to configure “Boot order” on remote station (via remote station BIOS Setup, after select CDROM to redirect) before you can let the remote station to boot from the redirected CDROM .



Select <Options> menu to configure KVM-over-IP Video engine.



2.5.2 Remote Power Controls

Select options in this page to reset, power off, power on, or power cycle the remote station.

The screenshot shows a Mozilla Firefox browser window with the URL `https://192.168.0.207/index.html`. The page features a header for MEGARAC Aster by American Megatrends Inc. Below the header is a navigation menu with items: System Information, Server Health, Configuration, Remote Control (highlighted), Maintenance, and Languages. A HELP icon is also present.

The main content area is titled "Remote Control" and includes the text: "This section allows you to perform various remote operations on the server, such as launching the remote console." Below this is a section titled "Power Control and Status" with the following text: "The current server power status is shown below. To perform a power control operation, select one of the options below and press Perform Action."

The status is "Host is currently on". The available options are:

- Reset Server
- Power Off Server - Immediate
- Power Off Server - Orderly Shutdown
- Power On Server
- Power Cycle Server

A "Perform Action" button is located at the bottom of the options list.

The browser's status bar at the bottom shows "Done" and the IP address "192.168.0.207".

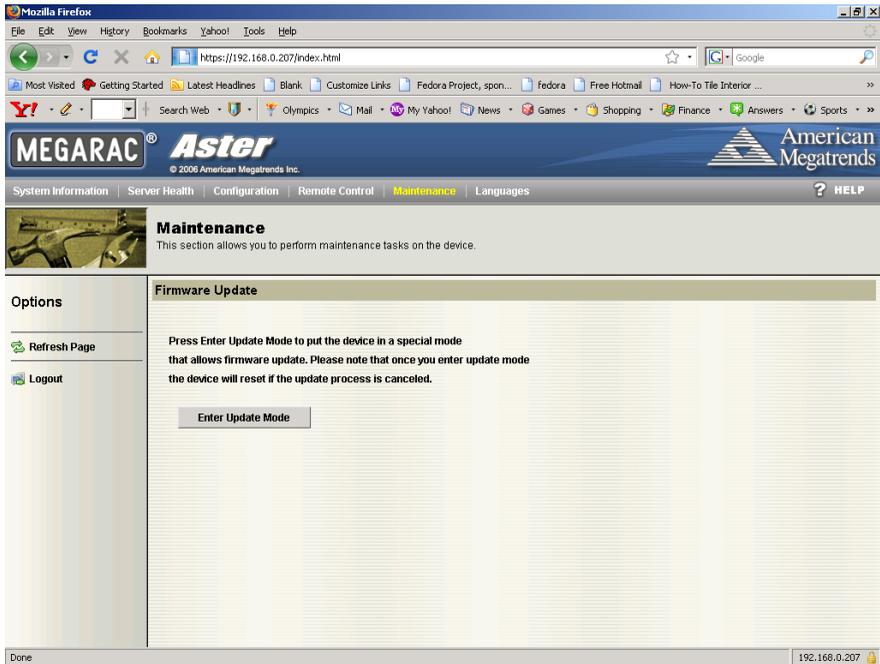
2.5.3 Other Controls

Select options in this page to chassis ID LED check, clear CMOS and local lock panel control the remote station.

The screenshot shows a web browser window displaying the MEGARAC Aster Remote Control interface. The browser's address bar shows the URL `https://192.168.0.100/index.html`. The page header includes the MEGARAC and Aster logos, along with the copyright notice "© 2006 American Megatrends Inc." and navigation links for System Information, Server Health, Configuration, Remote Control, Maintenance, and Languages. The main content area is titled "Remote Control" and contains the text: "This section allows you to perform various remote operations on the server, such as launching the remote console." Below this, there is a section titled "All Others Control" with four radio button options: "off" (selected), "15 Seconds", "60 Seconds", and "Always On". Underneath these options are five buttons: "Chassis Locate LED", "Clear CMOS", "Local Panel Unlocked", "Lock Local Panel", and "Unlock Local Panel". A left sidebar titled "Options" contains a tree view with "Remote Control" selected, and sub-items for "Console Redirection", "Server Power Control", and "Other Control". There are also buttons for "Refresh Page" and "Logout". The browser's status bar at the bottom shows "Internet".

2.6 Maintenance

Need to “Enter Update Mode” in order to flash new firmware.



Select firmware health and then press “update firmware” button to proceed firmware update.

Mozilla Firefox

File Edit View History Bookmarks Yahoo! Tools Help

https://192.168.0.207/index.html

Most Visited Getting Started Latest Headlines Blank Customize Links Fedora Project, spon... Fedora Free Hotmail How-To Tile Interior ...

Search Web Olympics Mail My Yahoo! News Games Shopping Finance Answers Sports

MEGARAC *Aster* American Megatrends
© 2006 American Megatrends Inc. ? HELP

Maintenance

This section allows you to perform maintenance tasks on the device.

Options

Firmware Upload

The device is now in Upgrade mode. Please specify the filename of the Firmware Image that you want to upgrade to. Clicking on the 'Browse' button will allow you to select the firmware image file. Once you do that, click on the 'Upload' button to upload the image file to the device.

Select Firmware to Upload:

Done 192.168.0.207

NOTE

3. BMC Port Number

This section will list a table of the BMC Port numbers.

BMC Port Number	Web: 80, 443
	KVM: 7578
	CD-Media: 5120
	FD-Media: 5123
	SSH (Smash): 22
	RMCP (IPMI): 623
	UPnP: 1900