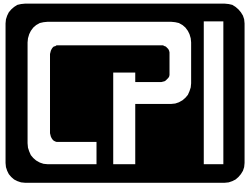




# CPI CenterBridge User's Manual

Version 1.0  
8/2009



**CHATSWORTH  
PRODUCTS, INC.**

**800-834-4969  
techsupport@chatsworth.com  
www.chatsworth.com**

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Chatsworth Products, Inc.  
9353 Winnetka Avenue  
Chatsworth, CA 91311  
800-834-4969

### **CenterBridge User's Manual**

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Any product that has been repaired or replaced shall be similarly warranted on its repair or replacement for the remaining product warranty period or 90 days from the date of repair or replacement, whichever expires last.

This warranty does not extend to products that have been subjected to neglect, accident or improper use, nor to units that have been altered by non- Chatsworth Products, Inc. personnel.

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## **INTRODUCTION**

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This document is the User's Manual for the CenterBridge by Chatsworth Products, Inc. (CPI). It guides the user through installation, operation and maintenance of the equipment.

CenterBridge is used with CPI's SEMA software, CenterLine, monitored and controlled SEMA-compatible PDUs and PowerScope In-Line Meter to provide enterprise-wide, web-based KVM switch access to devices (computer, data storage and network switch equipment), asset management and power monitoring – part of CPI's total infrastructure management solution.

## HOW TO USE THIS MANUAL

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### Graphic Conventions



Warning! Caution should be taken when performing this task.

### Nomenclatures

KVM – Keyboard, video and mouse. Usually refers to the switch or any interface that handles all the three types of I/O.

USB – Universal Serial Bus, a standard high-speed serial bus available on most servers. It comes in three standards 1.0, 1.1 and 2.0.

PS/2 – Standard interface used by most servers to interface to keyboard and mouse devices.

Rack U – Standard unit of height in the rack/cabinet; 1 RMU = 1.75”.

SIM – Server Interface Module

LIM – Local User Interface Module

SEMA – Scalable Enterprise Manager Application

## Product Features

CenterBridge has been designed to provide a centralized rack management system bridging the fractured proprietary management protocols from different vendors and across various Data Center products. By providing a single IP address to the rack cabinet CenterBridge opens the ability not only to manage devices through a common interface, but also to integrate capabilities such as asset management, security management and power management.

CenterBridge will deliver not only a highly integrated Data Center management platform, but also a layer to develop further applications to take advantage of this low level connectivity to each device.

CenterBridge is a 1 RMU (1.72") high rack-mount chassis that includes:

- Eight KVM switch device ports which provide low-level connectivity to a combination of input/output devices (e.g., keyboard, video display, mouse, serial interface and/or universal serial bus-USB) for equipment within a rack.
- A built-in Remote Interface Module (RIM): provides capability for 1 user to remote management over a 10/100/1000 TCP/IP network Using a web plug-in the user can access devices within a rack using either a standalone security logon or through the primary security scheme provided by the network's Active Directory protocol.
- A built-in Local Interface Module (LIM): provides a user the access to devices within the rack locally using a CenterView KVM Console (a 1 RMU rack-mountable integrated keyboard, display unit and mouse to be mounted within and flat panel drawer).
- A built-in PDU with 8 IEC C13 receptacles which has 2 receptacles are always on and 6 receptacles are software switchable.
- The chassis also has a dedicated port for an optional external modem in order to provide dial-up remote management access to the system in the event of a catastrophic network failure.

## INSTALLATION CHECKLIST

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### Hardware:

Required:

- CenterBridge Chassis: Front and Back



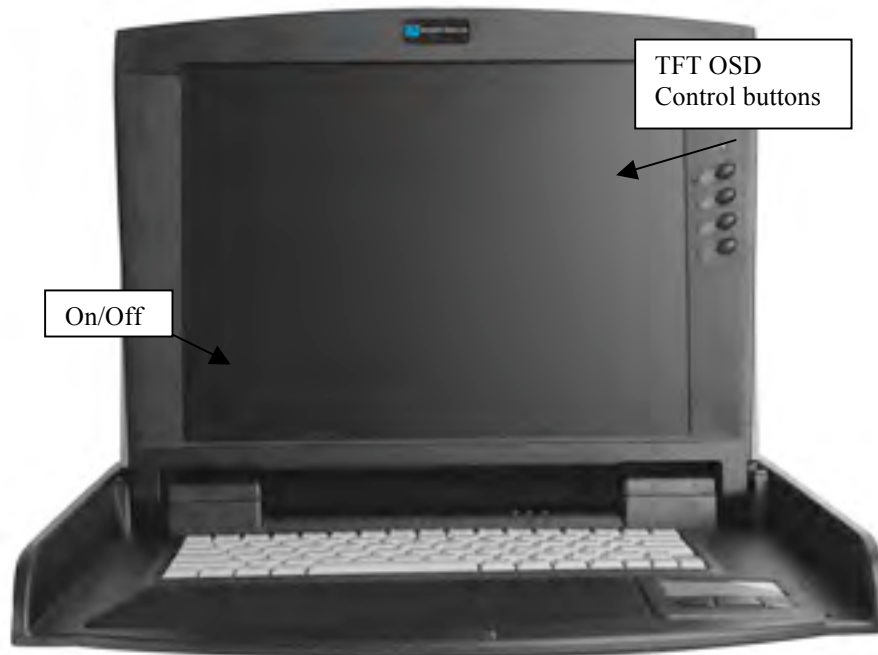
- Two chassis rack-mount rails and six button screws:



Note: The picture above shows one rack-mount rail. The rails are a two-piece assembly. The rail at the top of the photo attaches to the front and rear mounting rails in the cabinet. The rail at the bottom of the photo attaches to the sides of the CenterBridge. The two-piece rail allows easier installation because the rack-mount rails are first installed in the cabinet and then the CenterBridge is attached.

Optional:

- One CenterView: 19"W x 1 RMU, 15" TFT Display, Keyboard, and Touchpad. Includes rack-mount rails and power cord.



**Cables:**

Required: (pictures are shown in the Installation Section.)

- One AC power cord.
- One SIM Cable per device to be connected (ordered separately). There are several types of SIM cables:
  - A complete set of connectors: HD15 for video, PS/2 for mouse and keyboard, DB9 for COM port, and USB.
  - HD15 for video and USB connectors (if the device to be connected does not have PS2 interface).
  - DB9 connector only (if the device to be connected only has serial interface.)
- One Ethernet patch cable. Type CAT5 or greater

Optional:

- One LIM Cable (ordered separately): used to connect a CenterView to the Local User Interface Module (LIM). (Proprietary pinout, both ends are DB15 Male)



- Device power cables with IEC C14 plugs on the CenterBridge side.

**Software:**

Software and firmware are pre-installed on the modules that require them. Only Field Service Engineers are trained to perform firmware/software upgrade.

---

## INSTALLATION GUIDE

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### Safety Warnings and Cautions



- When mounting heating issues must be taken into account.
- DO NOT open the top cover. Hazardous Voltages Present.
- DO NOT OPEN ANY PART OF THE CENTERBRIDGE CHASSIS. There are no user serviceable parts inside of the chassis. Opening or removing covers may expose you to dangerous shock hazards or other risks. Refer all servicing to qualified service personnel.
- Do not spill any liquids into the cabinet.
- Do not insert objects of any kind into the cabinet slots, as they may touch dangerous voltage points, which can be harmful or fatal or may cause electric shock, fire or equipment failure.
- Do not place any heavy objects on the power cord. Damage to the cord may cause shock or fire.
- When operating CenterBridge with AC 208-240V power source, use a power cord that matches and is properly rated for the AC power outlet being used. The power supply cord you use must have been approved by and comply with the safety standards of your country.
  - We recommend a team of two persons to do the hardware installation.

### Hardware

#### Mounting the CenterBridge Chassis into the Rack/Cabinet:

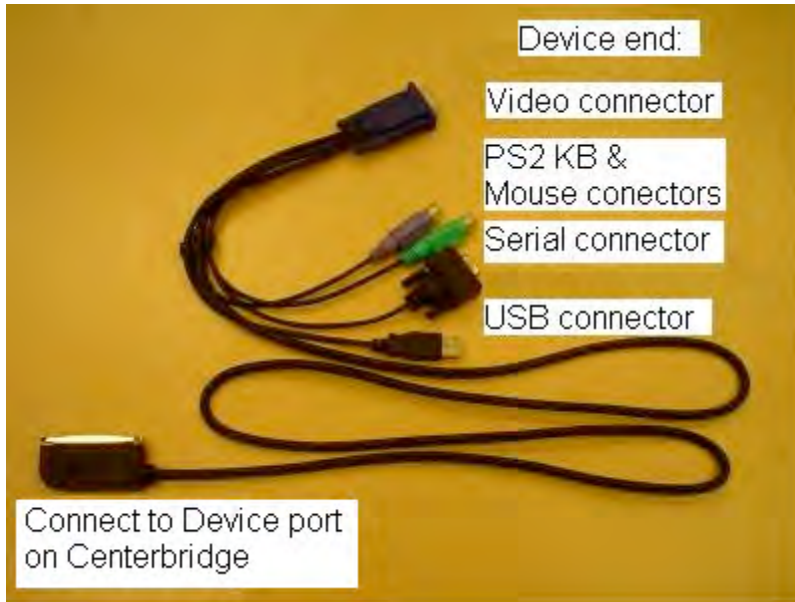
The CenterBridge chassis attaches to the front and rear pair of equipment mounting rails in the rack/cabinet with a two-piece rack-mount rail. Detach the inner members of the rack-mount rails and secure them to both sides of the CenterBridge chassis (as shown in the photo below). The inner rails are detached from the outer rails by depressing the spring tab (see the arrow on photo).



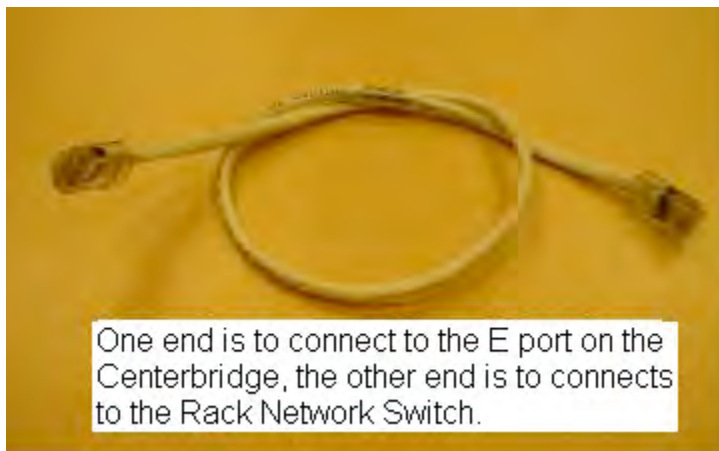
Mount the CenterBridge horizontally near the top of the cabinet by securing the outer members of the rack-mount rails to the appropriate rack location. Insert the CenterBridge into the rack so that the power outlets face the front of the rack.

**Connecting cables:****Server Interface Module cable:**

Connect the SIM cables between each SIM port and devices.

**Connect the Ethernet cable:**

Insert one end of the Ethernet cable into the E RJ-45 jack that is next to the Network Icon on the CenterBridge chassis. Insert the other end of the Ethernet cable into a Network Switch.

**Connect the Power cord:**

Connect the power cord to the CenterBridge.

**Software**

Software and firmware are pre-installed on the modules that require them.

CenterBridge is used with SEMA software. Follow the installation instructions in the SEMA User's Manual to install SEMA software and configure the CenterBridge for enterprise-wide access.

## First Time Set Up

Make sure all power cords are plugged in properly. Power on the CenterBridge (and CenterView if attached) and begin the setup process.

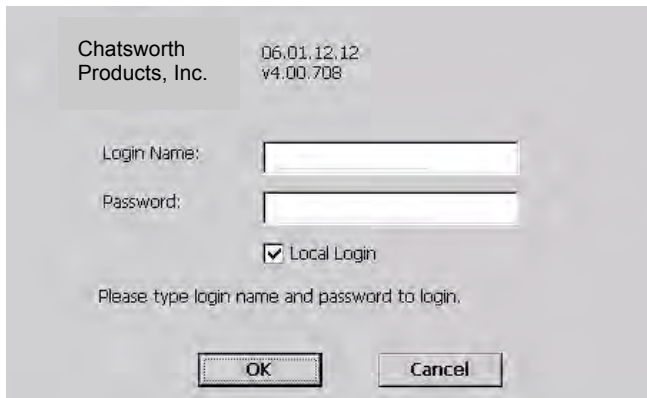
### Local Set-up:

If a CenterView is attached to the Local Interface Module (LIM) on the CenterBridge, the user can perform the CenterBridge set-up task locally using the keyboard and mouse on the CenterView.

All text boxes are up to 63 alphanumeric characters long.

### Step 1: Login

After the CenterBridge successfully boots, the CenterView will display the login screen as below:



Chatsworth  
Products, Inc. 06.01.12.12  
v4.00.708

Login Name:

Password:

Local Login

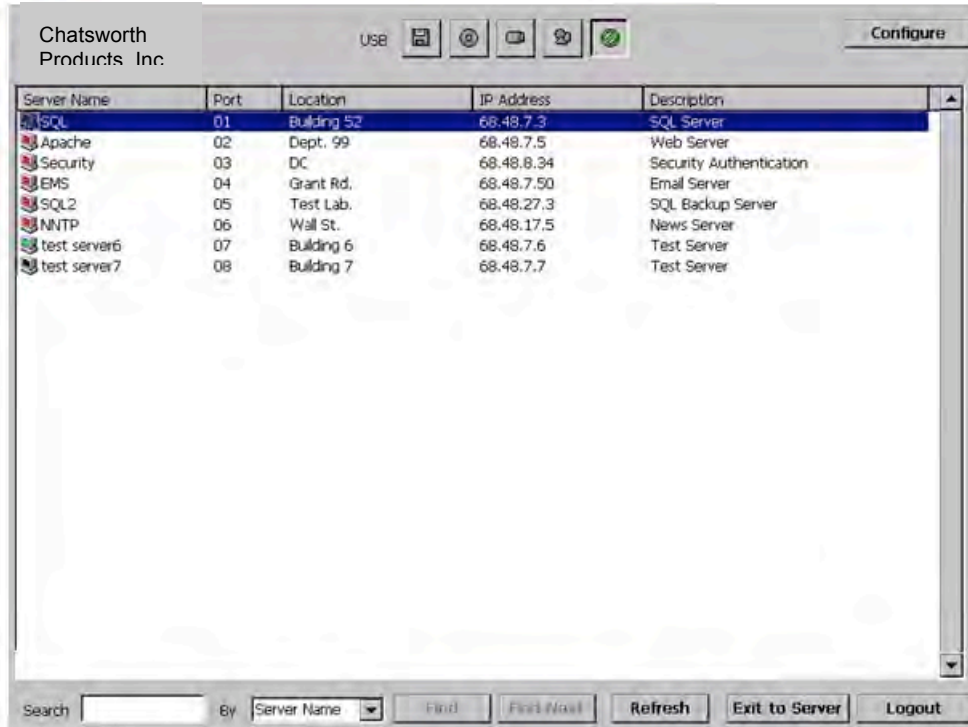
Please type login name and password to login.

OK Cancel

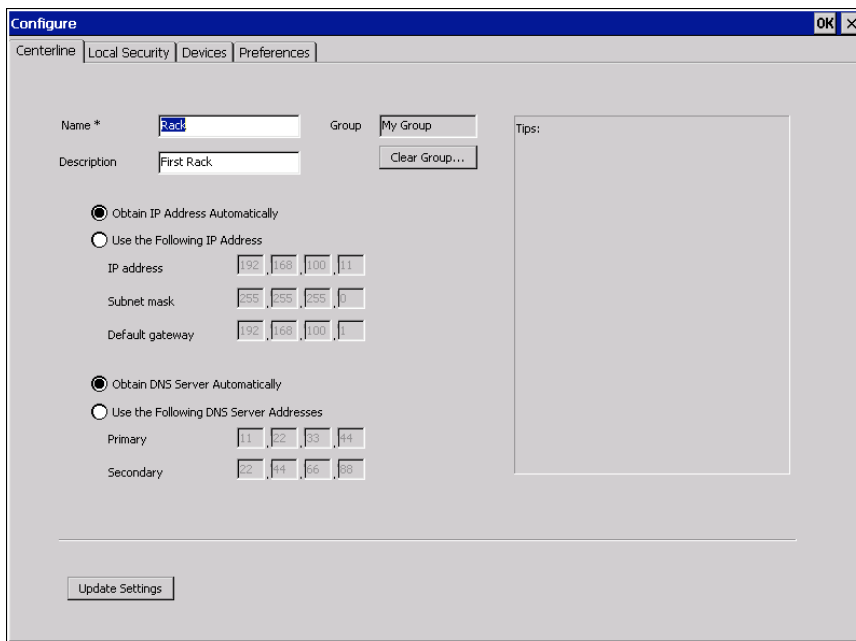
Enter “admin” for Login Name and “centerline” for Password, make sure Local Login is checked and click on the OK button.

## Step 2: Adding the CenterBridge to the network

The Main Screen will be displayed as follow:



Note: From power up it will take a few minutes for the CenterBridge to find all available devices. You can click on the Refresh button to update the display. As the CenterBridge is ready for use, the Configure button will be enabled. Click on the "Configure" button to go to the Configure Menu and then select the Centerline tab.

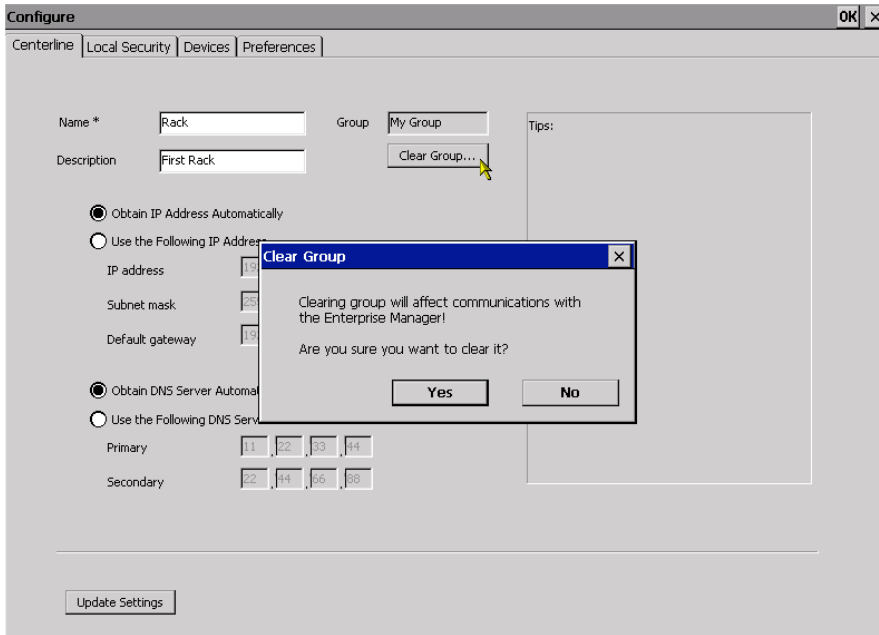


Assign name, IP address and DNS to the CenterBridge.

A Group is collection of Enterprise wide Management Devices.

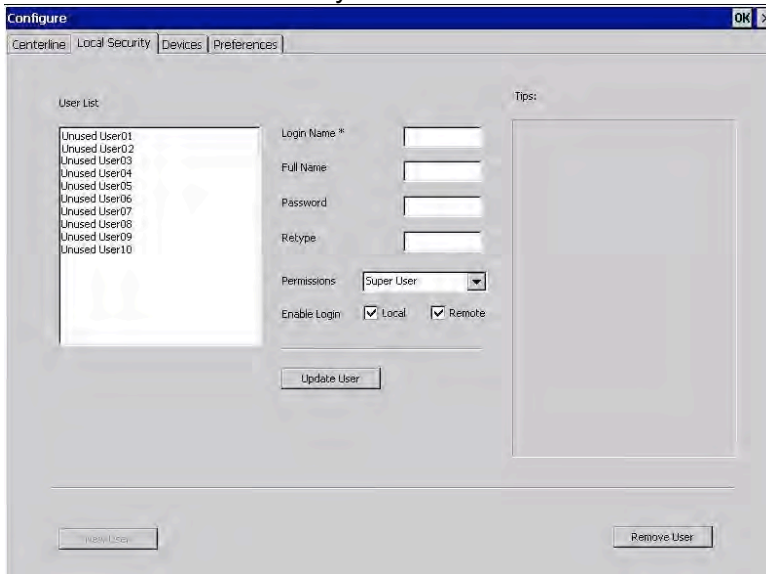
If the CenterBridge was assigned to an Enterprise group name before and was removed without detaching properly, the Group Field will be populated with the old Group name.

In this case the user needs to click on the Clear Group button to BLANK OUT the old Group name to allow the SEMA to detect and make it available to the user for attaching. In an existing installation where the CenterBridge was attached properly and is operating normally, the user should not clear the Group name.

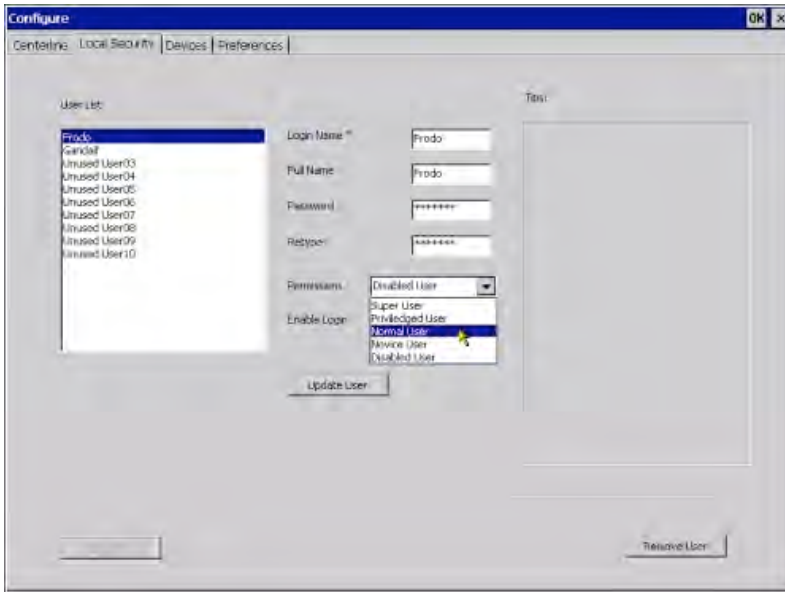


### Step 3: Setting Local Security

Click on the Local Security tab

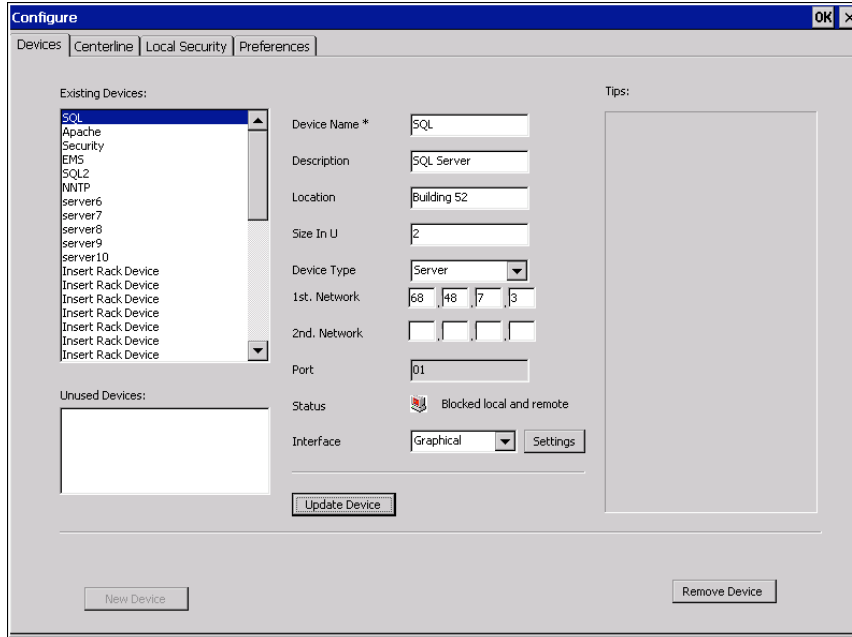


Add local users to the local database.

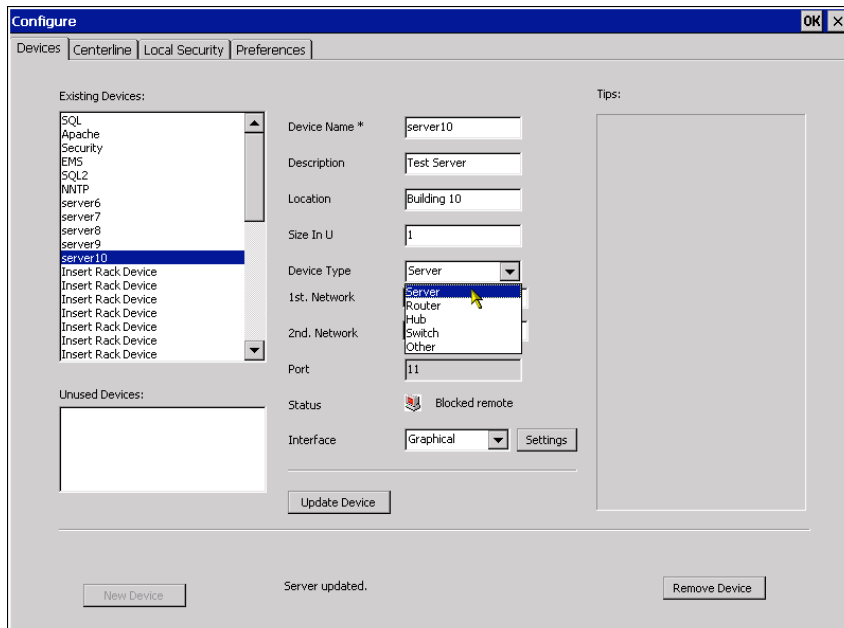


## Step 4: Setting Devices

Click on the Devices tab



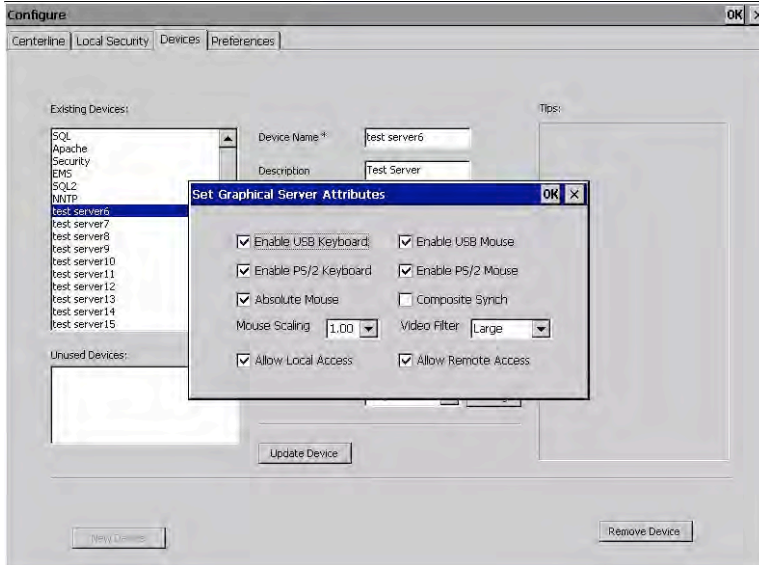
Highlight Device name in the Existing Device list and key in the Device name, Description, Location and IP addresses. Device type can be selected from the Device Type Drop down List Box.



Interface Drop down List Box is used to set the Device's Input/Output interface. Select Graphical if the device has VGA type of display or select Headless if the device has Serial communication. Clicking on Setting is required to complete the Interface Attributes

## Step 5: Setting Devices Attributes

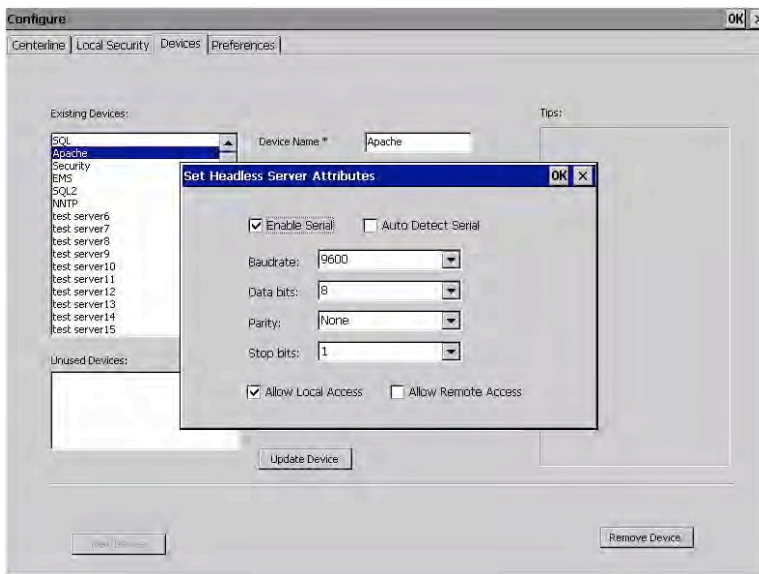
If the device has a video interface then select “Graphical” option for the interface. Click on the Settings button to complete the setup.



Check the Absolute Mouse checkbox only if the device is running SUN or MAC and the mouse is interfaced via USB otherwise leave it unchecked.

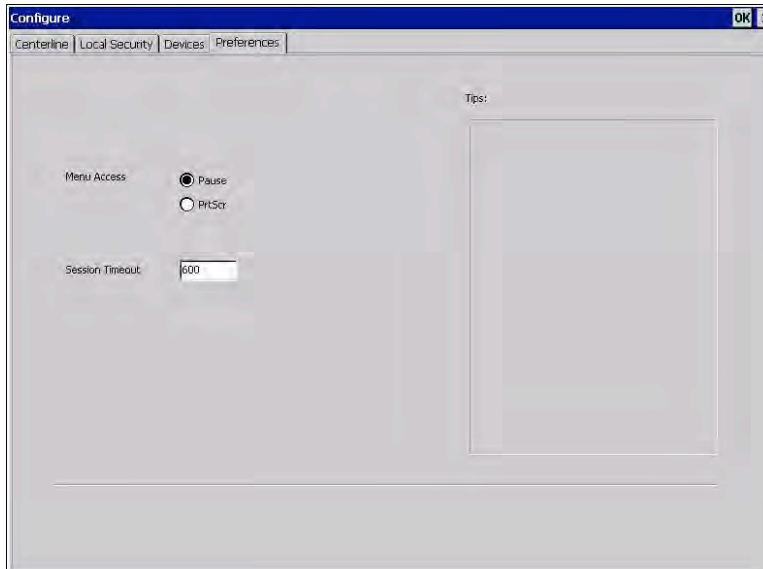
Check the Composite Synch checkbox if the device is a SUN server.

If the device is connected to the CenterBridge using a Serial connection, click on the Interface Combo Box to select “Headless”. Click on the Settings button to set the Serial Connection Attribute.



## Step 6: Setting Preferences

Click on the Preferences tab to set the Menu Access method of your choice and enter the length of the Session before it will be timed out. Valid value: 0 (never time out) and 1 to 64,000 seconds. Click the OK button to apply the changes.



### Remote Set-up:

- New installation: Refer to the Installation Guide section in SEMA User Manual
- Existing installation: Refer to the User Guide Web GUI Walk-through section in the SEMA User Manual. Note that the setups for the PDU are done through the SEMA GUI only.

## USER GUIDE

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### GUI Walk-through

Login Screen:

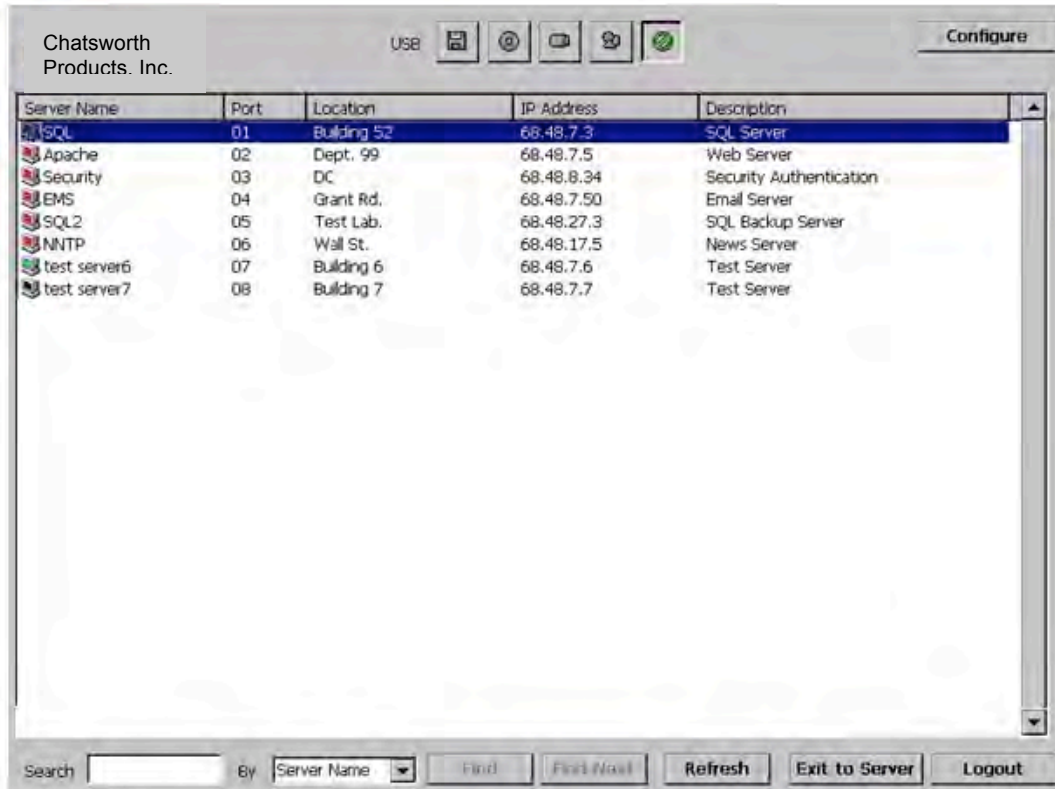
The screenshot shows a login dialog box for Chatsworth Products, Inc. The dialog box contains the following elements:

- Company name: Chatsworth Products, Inc.
- Sequence ID: 06.01.12.12 (indicated by an arrow from the label "Sequence ID")
- Rack Name: v4.00.708 (indicated by an arrow from the label "Rack Name")
- Login Name field: Contains the text "epiadmin".
- Password field: Contains a series of asterisks "\*\*\*\*\*".
- Local Login checkbox: Checked.
- Instruction: "Please type login name and password to login."
- Buttons: "OK" and "Cancel".

- Enter the Login Name and Password.
- Check the Local Login check box for the Username/Password verification from the CenterBridge local database. Otherwise, the Username/Password will be verified from the SEMA database.

## Main Menu:

Upon the successful Login, the Main Screen will be displayed. Notice if this is from power up, it will take a few minutes for the CenterBridge to find all available devices. You can click on the Refresh button to update the display. As the CenterBridge is ready for use, the Configure button will be enabled.



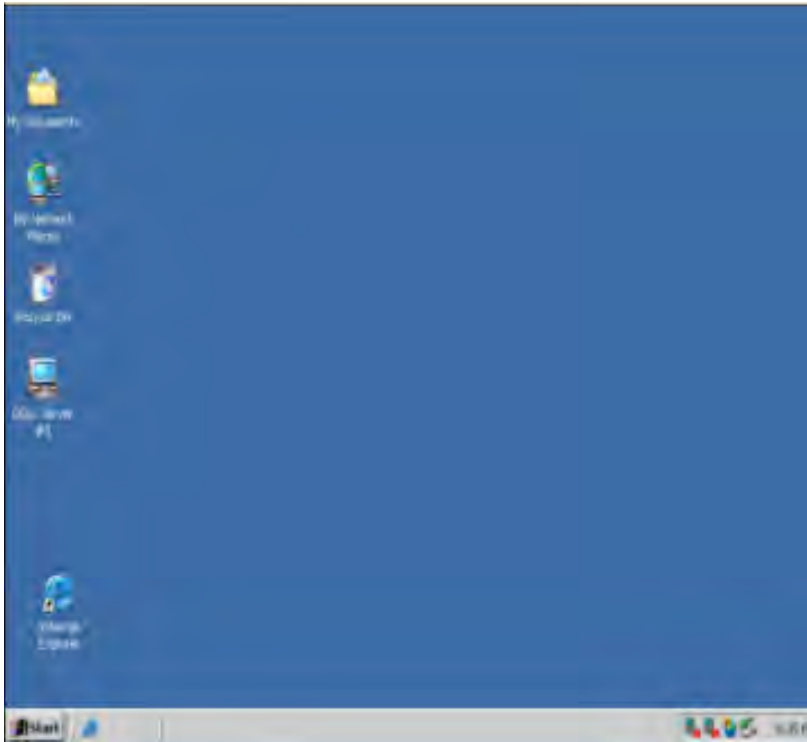
Color codes of the icons on the left of Device Name indicate status as follows:

- Red: Device is not accessible locally.
- Green: Device is available for viewing
- Blue: Device can be accessed locally but currently is being viewed by another user.
- Dark Gray: Server Interface Module exists in the slot but the device is not hooked up or not powered.
- Light Gray: Server Interface Module is not available.

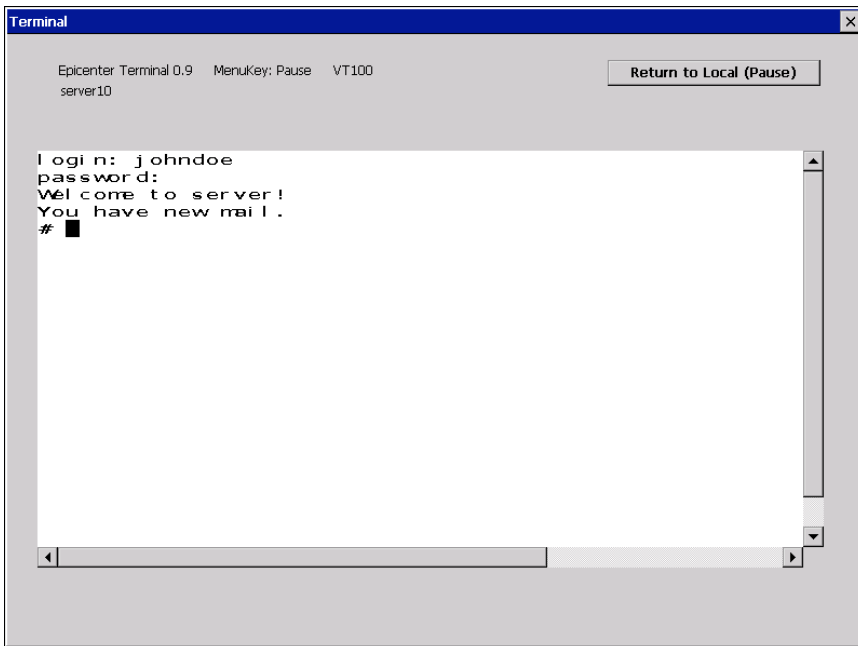
To locate for a desired device, the user can type in the Search field one or more beginning characters of the string to search, select the option from the “By” drop-down List box and Click on the “Find” button. The first matching device will be highlighted. To locate the next match, click on the “Find Next” button.

There are two ways to view a device:

1. Use the mouse to double-click on the chosen device.
2. Use the Up/Down Arrow Keys to high light the device and press the Enter key.



### View Server with Graphic

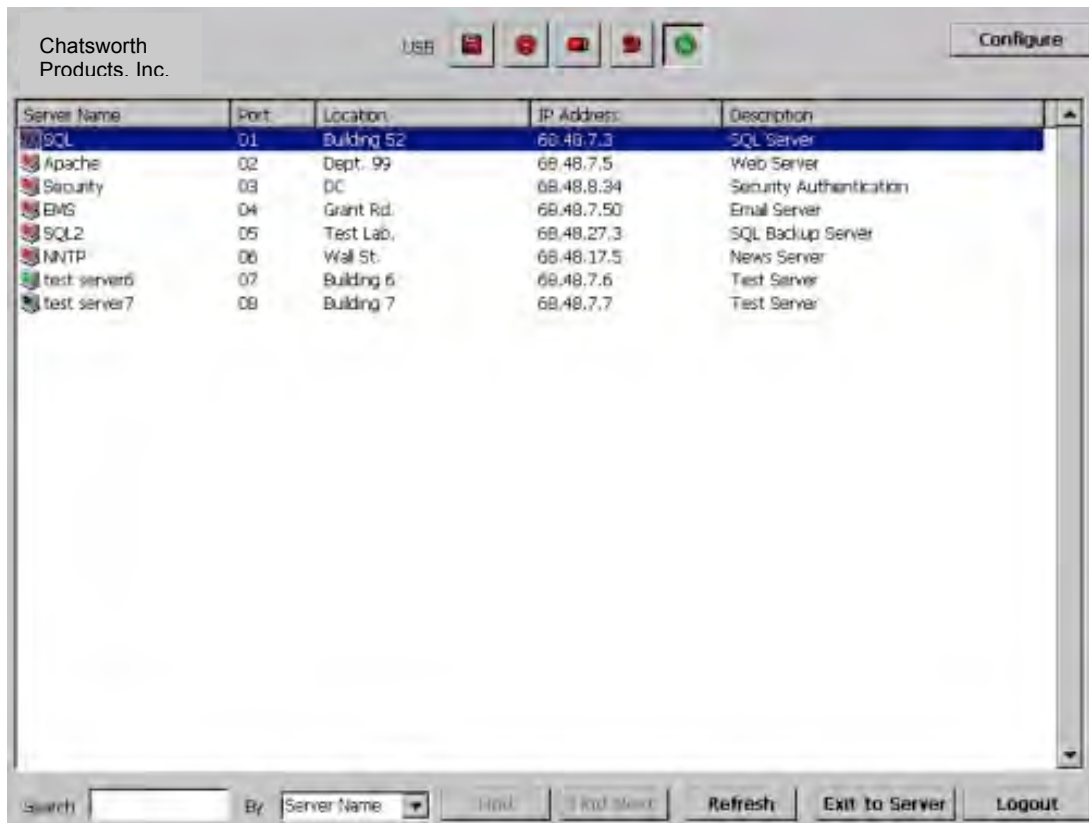


### View Server with Terminal Emulator

### Sharing USB Device from the Local Interface Module:

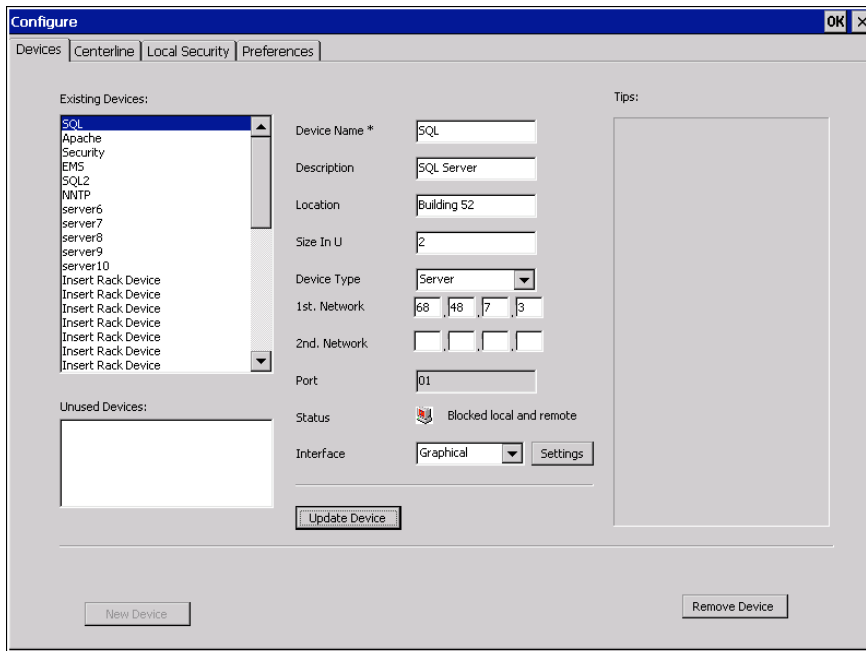
The list of USB devices shows (from left to right): Floppy, CD/DVD, Jump-drive, Security card and No-sharing.

The four USB icons will be gray color if no USB device is inserted in the USB slot on the LIM. If an USB device is present, the USB Device Icon changes into RED color. When the Red icon is selected its color will turn into GREEN and the associated USB device will be made available on the selected server. Remember to eject the USB device from the server before leaving the server. Some Operating Systems do not handle hard “un-plug” USB devices well. To stop sharing, click on the icon on the far right.



## Modify Device information

Device information can be modified and updated by clicking the Devices tab from the Configure Screen.



Remember to click the Update Devices to apply newly input data to each device and to click OK (top right hand corner of the dialog box) to save all the settings.

To discard all the changes made in this session click on the X (top right hand corner of the dialog box)

## Normal Startup

- Apply power to CenterBridge Chassis, which means provide source power to the rack.
- Plug in the Power cable and turn on CenterView using the switch in the back. The top LED on CenterView screen panel will be on.
- In the CenterView screen wait for Login dialog, log in and wait for all the SIM ports to be shown on the list, periodically click on “Refresh” button to get the updated list.
- Apply power to the devices in the rack and monitor each of their boot-up process by selecting each device. Verify that each has proper video displayed and responds to keyboard and mouse.
- Using a client computer browser, log into SEMA, navigate to the rack being powered on, connect to each device and verify proper display of video and responsiveness to keyboard and mouse input.

## Quick Startup

- Apply power to CenterBridge Chassis, which means provide source power to the rack.
- Apply power to CenterView.
- Wait for the 10 seconds to allow CenterBridge Chassis to boot up to the proper stage.
- Power on all the devices in the rack.
- In the CenterView screen wait for Login dialog, log in and verify that each device has proper video displayed and responds to keyboard and mouse.
- Using a client computer browser, log into SEMA, navigate to the rack being powered on, connect to each device and verify proper display of video and responsiveness to keyboard and mouse input.

## Normal Shutdown

- In the CenterView screen, log in and select each device to shut them down.
- Turn off CenterView power.
- Remove power from CenterBridge by: removing source power to the rack or unplugging cord to the CenterBridge Chassis.

## Emergency Shutdown

- Remove power from CenterBridge by unplugging cord to the CenterBridge Chassis.

## TROUBLESHOOTING GUIDE

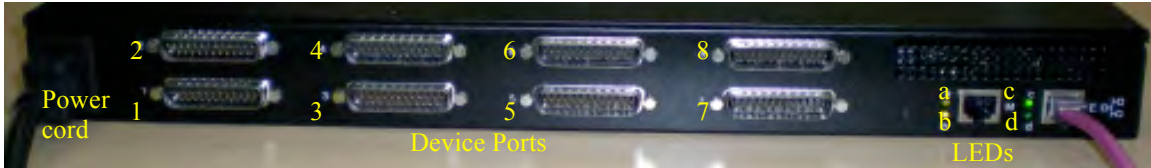
The following are simple steps that will guide the user in isolating common faults or mistakes and are categorized as:

### CenterBridge Chassis

Front



Back



- If the “c” LED does not blink – Reset or power cycle the CenterBridge Chassis if problem persists replace the CenterBridge Chassis.
- If the “d” LED does not blink (it’s solid on or off) after initial boot up (2 minutes) – Reset or power cycle the CenterBridge Chassis, if problem persists replace the CenterBridge Chassis.
- If the network connector LED is not on – Check for network cabling to the switch/hub and verify integrity of the port in the network switch/hub. Verify network settings in System troubleshooting section.
- If the local display does not show video from the LIM – Move the mouse or enter a key in the keyboard. Verify integrity of the KVM cable and the display (CRT monitor or LCD). Enter Pause/Break and PrintScr to bring it back to local mode. Unplug the module from the CenterBridge Chassis and re-plug it back in. If the problem persists report bad LIM module.
- LIM keyboard does not respond – Verify integrity of the KVM cable. Verify integrity of the local keyboard. Enter Pause/Break and PrintScr to bring it back to local mode. Unplug and plug back in the KVM cable. Unplug and plug back in the LIM module. If the problem persists report bad LIM module.
- LIM mouse does not respond - Verify integrity of the KVM cable. Verify integrity of the local mouse. Enter Pause/Break and PrintScr on the keyboard to bring it back to local mode and then type F11. Unplug and plug back in the KVM cable then type F11. Unplug and plug back in the LIM module. If the problem persists report bad LIM module.

- If the local display does not show connected device video from the LIM – Move the mouse or enter a key in the keyboard. Verify integrity of the hydra cable to the device. Reboot device. If the problem persists report a bad Device port.
- LIM keyboard connected to device does not respond – Verify integrity of the hydra cable. Unplug and plug back in the keyboard PS2 or USB cable from the device. Reboot device. If the problem persists report a bad Device port.
- LIM mouse connected to device does not respond - Verify integrity of the hydra cable. Reboot device. If the problem persists report a bad Device port.

## **System**

- If the CenterBridge unit does not respond to ping or broadcast query – Check the network cabling and verify the network configuration of the unit using EISemaUI/DeviceFinder/Setup Network. Make sure the proper IP address is configured and verify proper operation of the network's DHCP device (if using dynamic/auto IP address assignment)
- If a client Viewer has difficulty accessing video – Try to access a different device. If the video shows properly then report a bad Device port. If the video does not show on another known good device port then report a bad RIM module.

## **APPENDICES**

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### **Warranty**

Chatsworth Products, Inc. (CPI) guarantees manufactured products and each part or component thereof against all defects in material and/or workmanship. Chatsworth Products, Inc. agrees to remedy any manufacturing defect either through replacement or repair at no charge provided that the defective unit is returned, transportation prepaid, to the Chatsworth Products, Inc. factory. The warranty extends for a period of one year from the date of installation or initial use, provided that this period shall not exceed 18 months from the original date of shipment from the factory.

Any product that has been repaired or replaced shall be similarly warranted on its repair or replacement for the remaining product warranty period or 90 days from the date of repair or replacement, whichever expires last.

This warranty does not extend to products that have been subjected to neglect, accident or improper use, nor to units that have been altered by non- Chatsworth Products, Inc. personnel.

No warranties other than those set forth in this section are given or implied with respect to the products furnished. Chatsworth Products, Inc. shall, in no event, be liable for consequential damages, for loss, damage or expense directly or indirectly arising from the use of the products, for any inability to use materials or from any other cause.

### **Factory Default Setting**

Local Login User name = admin (all lowercase)

Local Login Password = centerline (all lowercase)

Menu Access key = Pause/Break

## Specifications

Supports up to:

- 4 or 8 devices (servers, network switches, SANs, etc.)
- 1 Local user (optional) and remote IP access user (built-in).

Dimensions:

- CenterBridge Chassis: 1.75" x 17" x 14.5"

Weights:

- CenterBridge Chassis: 10 lbs

Altitude:

- Operating: 0 to 10,000 ft (0 to 3048 m)
- Non-operating: 0 to 30,000 ft (0 to 9144 m).

Audible Noise: Less than 60 db LpA (Sound pressure level at bystander position)  
The above noise level is not for office environment. It is for dedicated Datacenter environment.

Heat Dissipation: 170 BTU/hr maximum.

Shock and Vibration:

- Operating: 5 to 500 Hz, 0.5 g (0.1 octave/min)
- Non-operating: 5 to 100 Hz, 1 g (0.1 octave/min); 100 to 500 Hz, 1.5g (0.2 octave/min); 500 to 1000 Hz, 1.5 g (0.2 octave/min)

Electrical

- Grounding: Chassis grounded.
- Voltage: 100 to 240V AC.
- Max. Current:
  - PCB: 1.0 Amps at 240V AC up to 1.8 Amps at 100V AC.
  - PDU: 15 Amps at 100, 240V AC
- Line Frequency: Single phase 50 or 60 Hz.
- Isolation Voltage: 1,560V

Operating Temperature: 32° (0°C) to 104° (40°C)

Storage Temperature: -4° (-20°C) to 140° (60°C)

Operating Humidity: Non-condensing, 10 to 90 percent.

Storage Humidity: Non-condensing, 5 to 95 percent.

**Local Connection:**

- DB-25 connector. Providing Video, Keyboard, Mouse, USB port, Serial Port connections.
- Video Resolution: 640x480, 800x600, 1024x768
- USB Port: 1.1 and 2.0
- Serial Port: up to baud. Graphical User Interface for headless devices (connecting to Serial Console Port of the device.)

**Remote Connection:**

- Network: 10/100/1000 RJ45
- Network Protocol: TCP/IP, http, https
- Host PC/SUN Graphics Mode: 640x480, 800x600, 1024x768
- Access to host server via a Web-based interface. Supports IE version: 6.0 or higher. First time users will automatically download the required plug-in.
- Bandwidth taken by 1 user: 100Kb
- Security:
  - Method: SSL Encryption
  - Key length: 128

MTBF: 35,000 hrs

Lifetime of Power Supply: 100,000 hrs