Intel® Server System SR870BH2 Quick Start Guide

This guide contains basic instructions for setting up the system and accessing the Product Guide from the Resource CD.

Important Safety Instructions

Read all caution and safety statements in this document before performing any of the instructions. See *Intel® Server Boards and Server Chassis Safety Information* on the Resource CD and/or at http:\\support.intel.com.

Wichtige Sicherheitshinweise

Lesen Sie zunächst sämtliche Warn- und Sicherheitshinweise in diesem Dokument, bevor Sie eine der Anweisungen ausführen. Beachten Sie hierzu auch die Sicherheitshinweise zu Intel-Serverplatinen und -Servergehäusen auf der Ressourcen-CD oder unter http:\\support.intel.com.

Consignes de sécurité

Lisez attention toutes les consignes de sécurité et les mises en garde indiquées dans ce document avant de suivre toute instruction. Consultez *Intel Server Boards and Server Chassis Safety Information* sur le CD Resource CD ou bien rendez-vous sur le site http:\\support.intel.com.

Instrucciones de seguridad importantes

Lea todas las declaraciones de seguridad y precaución de este documento antes de realizar cualquiera de las instrucciones. Vea *Intel Server Boards and Server Chassis Safety Information* en el CD Resource y/o en http:\\support.intel.com.

重要安全指导

在执行任何指令之前，请阅读本文档中的所有注意事项及安全声明。参见 Resource CD（资源光盘） 和/或 http:\\support.intel.com 上的 *Intel Server Boards and Server Chassis Safety Information*（《Intel 服务器主板与服务器机箱安全信息》）。

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Intel® Server System SR870BH2 Specifications

Table 1.   **Intel® Server System SR870BH2 Physical Specifications**

Specification	Value
Height	3.4 inches (87 mm)
Width	17.7 inches (449 mm)
Depth	29.4 inches (747 mm)
Front clearance	3 inches (76 mm)
Side clearance	1 inch (25 mm)
Rear clearance	6 inches (152 mm)
Weight[1]	65 lbs (30 kg)

Note: 1. The system weight listed above is an estimate for a fully configured system and will vary depending on number of peripheral devices and add-in cards, as well as the number of processors and DIMMs installed in the system.
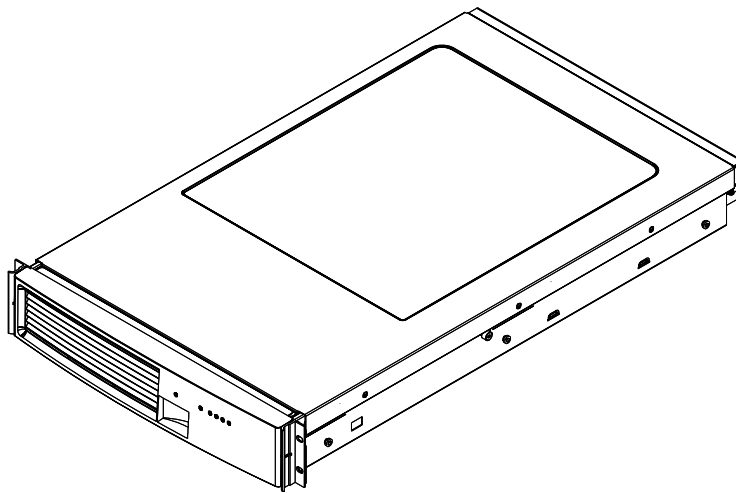

Figure 1. Intel® Server System SR870BH2

Regulatory Specifications and Disclaimers

FCC Electromagnetic Compatibility Notice (USA)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operating in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference. In this case, the user is required to correct the interference at his/her own expense. 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 the receiver.
- Connect the equipment into 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.

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment. The customer is responsible for ensuring compliance of the modified product.

FCC Declaration of Conformity

Product Type: SR870BH2

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For questions related to the EMC performance of this product, contact:

Intel Corporation
2800 Center Drive
DuPont, WA 98327 USA

Laser Compliance Notice

Intel products that use laser technology comply with Class 1 laser requirements.

Class 1 Laser Product

Luokan 1 Laserlaite

Klasse 1 Laser Apparat

> **Laser Klasse 1**

✐ **NOTE**

> Class A device definition: If a Class A device is installed within this system,
> then the system is to be considered a Class A system. In this configuration,
> operation of this equipment in a residential area is likely to cause harmful
> interference.

Electromagnetic Compatibility Notices (International)

Europe (CE Declaration of Conformity)

This product has been tested in accordance too, and complies with the Low Voltage Directive (73/23/EEC) and EMC Directive (89/336/EEC). The product has been marked with the CE Mark to illustrate its compliance.

Japan EMC Compatibility

> この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準
> に基づくクラスＡ情報技術装置です。この装置を家庭環境で使用すると電波
> 妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ず
> るよう要求されることがあります。

English translation of the notice above:

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

ICES-003 (Canada)

> Cet appareil numérique respecte les limites bruits radioélectriques applicables aux
> appareils numériques de Classe A prescrites dans la norme sur le matériel brouilleur:
> "Appareils Numériques", NMB-003 édictée par le Ministre Canadian des
> Communications.

English translation of the notice above:

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of the Canadian Department of Communications.

BSMI (Taiwan)

The BSMI Certification number and the following warning is located on the product safety label which is located visibly on the external chassis.

警告使用者:

這是甲類的資訊產品，在居住的環境中使用時，
可能會造成射頻干擾，在這種情況下，使用者會
被要求採取某些適當的對策。

Removing the Server from the Box

Carefully unpack the server. Be sure to use two people to lift the server. Do not attempt to lift or move the server by the handles on the power supplies. If you need to move the server from one location to another, use a hand-truck or other mechanical assist unit.

⚠ WARNINGS

AVOID INJURY: **To avoid personal injury when unpacking the server, use only a mechanical assist unit to lift it off the shipping pallet. The maximum server configuration weighs 65 lbs (30 kg).**

Selecting a Site

The server operates reliably within normal office environmental limits. Select a site that meets these criteria:

* Near a properly earthed, grounded three-pronged power outlet
  — In the United States and Canada: a NEMA-compliant, 110-208 V~ outlet rated for 15 amps
  — In other geographic areas: a properly grounded, earthed outlet in accordance with the local electrical authorities and electrical code of the region
* Clean and relatively free of excess dust
* Well ventilated and away from sources of heat, with the ventilating openings on the server kept free of obstructions
* Away from sources of vibration or physical shock
* Isolated from strong electromagnetic fields and noise caused by electrical devices such as elevators, copy machines, air conditioners, large fans, large electric motors, radio and TV transmitters, and high-frequency security devices

⚠ CAUTION, ESD Precautions

Electrostatic discharge (ESD) can damage disk drives, add-in boards, and other parts. This server can withstand normal levels of environmental ESD. However, we recommend doing all procedures in this guide only at an ESD-protected workstation. If one is not available, you can provide some ESD

protection by wearing an anti-static wrist strap attached to chassis ground of the server when handling components (e.g., any unpainted metal surface).

⚠ **CAUTION**

Grounded outlet: Make sure that the power service connection is through a properly grounded outlet.

Temperature: The range of temperatures in which the server operates when installed in an equipment rack, must not go below 5 °C (41 °F) or rise above 35 °C (95 °F). Extreme fluctuations in temperature can cause a variety of problems in your server.

Ventilation: The equipment rack must provide sufficient airflow to the front of the server to maintain proper cooling. The rack must also include ventilation sufficient to exhaust a maximum of 650 Watts (or 2300 BTUs) for each server. The rack selected and the ventilation provided must be suitable to the environment in which the server will be used.

Checking Power Cords

⚠ **WARNING**

The Power button on the front control panel of the server does not completely remove AC power. To completely remove AC power from the server, you must unplug both AC power cords from the system or from the wall outlet. Unplugging the cords removes the +12 Volt standby power that is present when the server is powered down.

⚠ **WARNING**

Do not attempt to modify or use an AC power cord that is not the exact type required. You must use a power cord that meets the following criteria:

1. **Rating: For U.S./Canada cords must be UL Listed/CSA Certified, 16/3, 75C type, VW-1, SJT/SVT, with NEMA 5-15P or NEMA 6-15P attachment plug and IEC 320 C13 input power connector rated 15 amps. For outside U.S./Canada cords must be flexible harmonized (<HAR>) rated 250V, 1.0 mm minimum conductor size with IEC 320 C13 input power connector and rated for no less than 10 amps.**

2. **AC Attachment Connector, wall outlet end for outside U.S./Canada: The AC wall attachment plug should be a three conductor grounding type, rated at 125 V, 15 amps and must be for the configuration of the specific region or country. The AC wall attachment plug must bear at least an accepted safety agency certification mark for the specific region or country.**

3. **Input Power Connector, server end: The connectors that plug into the AC receptacles on the server must be an IEC 320, sheet C13, type female connector and are rated for 125 V/250 V, 15 A.**

✎ NOTES

Surge Suppressor Recommendations: In geographic regions that are susceptible to electrical storms, we highly recommend that you plug the server into a surge suppressor.

EMI Information: For information about complying with electromagnetic interference regulations, see "Electromagnetic Compatibility" in the *Intel® Server System SR870BH2 Product Guide.*

Connections and Controls

Figure 2 and Figure 3 show the chassis front view and the peripheral bay module.
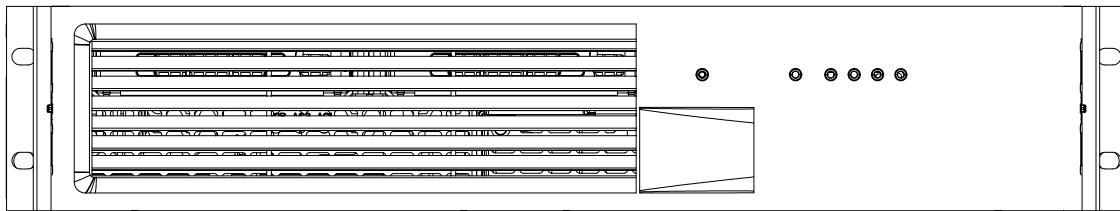

Figure 2. Chassis Front View
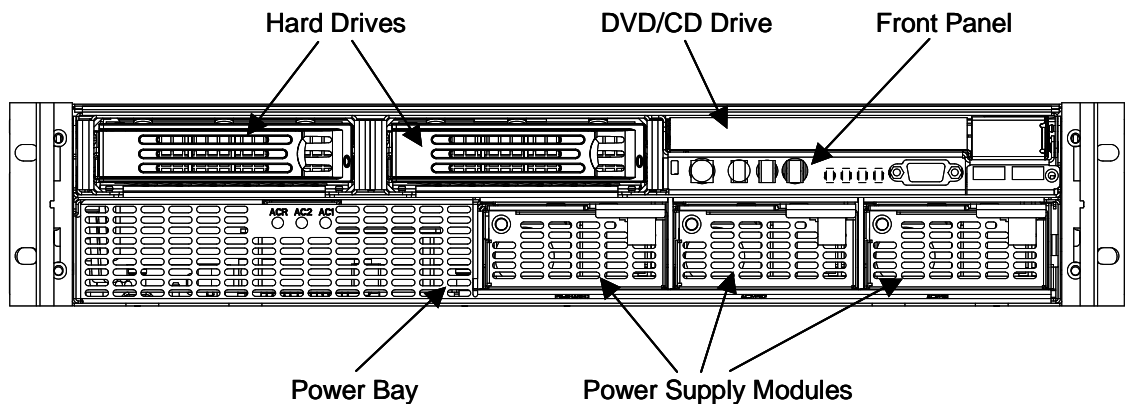
Figure 3. Front View of Intel® Server System SR870BH2 (Shown with Bezel Removed)

Figure 4 shows the front control panel of the Server System SR870BH2. The front control panel of the server displays status lights for system status, hard drives, and power supplies.
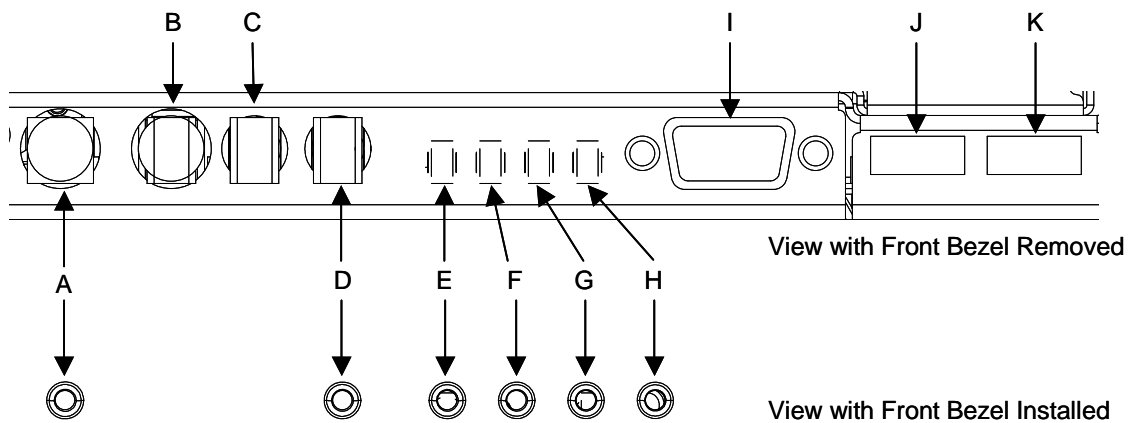
Figure 4. Front Panel View

Table 3. Front Panel Control and Indicator Description

Item	Feature	Description		
Front Panel Switches and LED Indicators				
A	System Power switch and LED	Toggles system power.		
		LED	*State*	*ACPI*
		Off	Power off	No
		On	Power on	No
		Off	S4 / S5	Yes
		On	S0	Yes
B	System Reset switch	Resets the system.		

Item	Feature	Description		
C	SDINT (System Diagnostic Interrupt) switch	Asserts SDINT.		
D	System ID switch and LED (Blue)	System identification switch and light		
E	System Status/Fault LED (Green/Amber)	Indicates system status.		
		LED	*State*	*Description*
		Off	Not ready	Post err/NMI Ev/CPU missing
		Green, On	Ready	No Alarms
		Green, Blinking	Ready – Degraded	CPU Fault, DIMM killed
		Amber, On	Critical Alarm	Critical of Pwr Flt, Fan, Voltage, and Temperature failures.
		Amber, Blinking	Non-Critical Alarm	Non-Critical of redundant Pwr Flt, redundant Fan, Voltage, and Temperature failures.
F	Hard Drive Fault LED (Amber)	Indicates Hard drive subsystem fault status.		
		LED	*State*	*Description*
		Off	Drive Missing	Slot Empty, Online, Prepare for removal.
		On	Inactive	Drive Failed
		Blinking		Drive Identity, Rebuild, Predictive Fail, Rebuild Interrupt or Rebuild on empty slot.
G, H	LAN1, LAN2 Status LEDs (Green)	Indicates LAN activity status.		
		LED	*State*	*Description*
		Off	Inactive	No Connection or Link
		On	Idle	Link and No Activity
		Blinking	Active	Access / Activity
Front Panel Connectors				
I	Video connector	Video port, standard VGA compatible, 15-pin connector		
J	USB3 connector	USB port 3, 4-pin connector		
K	USB4 connector	USB port 4, 4-pin connector		

Figure 5 shows the features found on the chassis back panel.
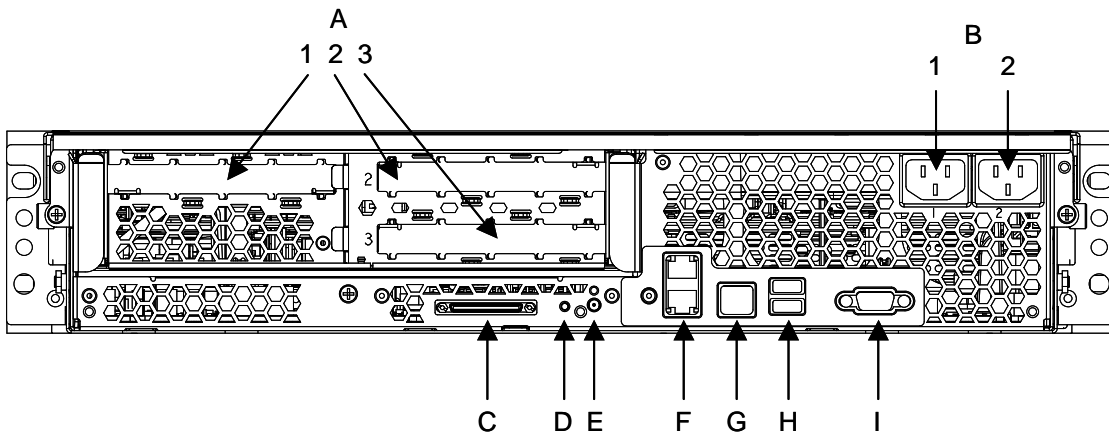
Figure 5. Chassis Back Features

Table 4. Back Panel Features

Item	Description	
A	PCI Slots	
	Slot 1	100 MHz, 64-bit PCI-X slot, full length
	Slot 2	100 MHz, 64-bit PCI-X slot, full length
	Slot 3	133 MHz, 64-bit PCI-X slot, full length
B	Two AC input power connectors	
C	External SCSI connector[1]	
D	System ID switch	
E	System ID LED (blue)	
F	Two LAN ports, RJ45 connector (LAN1 on bottom, LAN2 on top) LAN port LEDs:	
	Green LED	On – ethernet link is detected Off – no ethernet connection Blinking – ethernet link is active
	Green/Amber dual color LED	Ethernet speed indicator Green On – 100 Mbps Amber On – 1000 Mbps
G	Serial port[2], RJ45 connector	
H	Two USB 1.1 ports, 4-pin connectors (USB0 on bottom, USB1 on top)	
I	Video port, standard VGA compatible, 15-pin connector	

Notes: 1. External SCSI bus supports both LVDS and SE signals via the external SCSI connector.

2. EMP access is provided via shared serial port.

Connecting the Monitor, Keyboard, and Mouse

⚠ **CAUTION**

> Unplug server before connecting external devices, make sure the server is not plugged in or equipment could be damaged.

Before powering on the server, you must connect these devices to the front or back of the Server System SR870BH2.

1. Video monitor to the video port (I in Figure 4)
2. Keyboard to a USB port (J in Figure 4)
3. Mouse to a USB port (K in Figure 4)

Powering On the Server for the First Time

The first time you power on the server you need to enter the BIOS Setup Utility and set the correct date and time values. After setting these values, the server executes its Power-On Self Test (POST) sequence and passes control to the Boot Manager. From the Boot Manager, you can mount the DVD/CD-RW device to block zero and then load the operating system.

For information on the Boot Manager and the EFI Shell, refer to the *Intel® Server System SR870BNH2 Product Guide*.

Follow these steps to power up the Server System SR870BH2 for the first time:

1. Make sure all external devices, such as a monitor, keyboard, and mouse, have been connected.
2. Plug the female ends of both AC power cords into the back of the chassis (B 1 and 2 in Figure 5)
3. Plug the male ends of the server AC power cords into wall outlets (grounded, three-pronged AC power outlets).
4. Power on the video monitor.
5. Press the Power button on the front control panel (A in Figure 4). Pressing this button causes the server fans to start up and POST to begin.
6. When POST displays the message: "Hit <F2> if you want to run SETUP," enter <F2> and the system will enter the BIOS Setup Utility. (If you see a prompt asking for a system password, pressing the <ENTER> key will get you directly to the BIOS Setup Utility.)

✎ **NOTE**

> For information on how to use the BIOS Setup Utility, see the *Intel® Server System SR870BH2 Product Guide*.

7. From the **Main** menu of the BIOS Setup Utility, use the arrow keys to move the cursor down to the system date and time selections. Position the cursor over the date and time values and enter appropriate values. Use the <tab> key to move within the date and time fields.
8. Use the arrow key to access the **Exit** menu and select the item to save changes and exit the BIOS Setup Utility. After you exit the utility, the boot procedure resumes. You can monitor the remainder of the boot progress on the video display.

✎ NOTE

POST checks the processors, memory, keyboard and most installed peripheral devices. During the memory test, POST displays the amount of memory it is able to access and test. The length of time needed to test memory depends on the amount of memory installed. POST is stored in flash memory.

9. The AMI* BIOS banner displays the loaded versions of the BIOS, PAL, SAL, and EFI.
10. The LSI* banner appears and indicates the recognized drives. Note that a Platform Configuration EFI based configuration utility is required to enter the LSI SCSI utility. The LSI* SCSI utility enables you to manage and configure the server's SCSI devices. For information on the Platform Configuration Tool EFI utility and the screens available in this utility, see the *Intel® Server System SR870BH2 Product Guide*.
11. POST concludes and passes control to the Boot Manager.
12. From the Boot Manager, you can use arrow keys to highlight the option that invokes the EFI Shell, or you can highlight and select the **Boot Maintenance Menu**. Booting to the EFI Shell causes the following prompt to appear:

        Shell>

13. Mount the DVD/CD-RW device as block zero. For information on how to mount this device, see "Mounting the DVD/CD-RW Device" below.
14. Boot the operating system that you want to run on the server.

Mounting the DVD/CD-RW Device

Before you can use the DVD/CD-RW device to read media, you must mount the device. Follow these steps to mount the DVD/CD-RW device:

1. Be sure that you are in the EFI Shell. You should see the following prompt:

        Shell>

2. Insert media into the DVD/CD-RW drive. The media does not need to contain files. In order for the mount command in the next step to work, the drive must be loaded with media.
3. At the shell prompt, enter the following command:

        mount -r

    The media in the DVD/CD-RW should get remapped to one of the file systems, i.e., FS0:, FS1:, FS2. Change to the appropriate file system and enter the following command:

        ls

The Intel® Server System SR870BH2 Resource CD

The *Intel® Server System SR870BNH2 Resource CD* has the following contents: documentation for adding drivers during Microsoft* Windows* 2003 installation on floppy-less systems, RedHat* Advanced Server* 2.1 and SuSE* Enterprise Server 8.0 SCSI and Ethernet* drivers, System Maintenance Utility (SMU), EFI* Platform Diagnostics, FRUSDR Loader*, Quick Start Guide (this guide), Product Guide and Adobe* Acrobat* Reader.

The Resource CD comes with a menu driven program that can be used for the following:

1. Create a CD containing drivers for various operating systems.
2. Create a CD containing utilities, service partition and diagnostics.
3. Install EFI* Service Partition. The EFI service partition supports remote access to the Server System SR870BH2 via modem or LAN for the purpose of executing configuration/setup utilities and diagnostics.
4. Run Server System SR870BH2 EFI-based utilities.

How to invoke the Resource CD menu.

1. Insert the Resource CD into the server's DVD/CD-RW drive before booting to EFI Shell.
2. Boot the system into EFI Shell; the EFI CD Menu program will launch automatically. If the EFI CD Menu program does not launch in the EFI Shell, mount and map to the CD drive and type 'startup' and press <Enter> to launch the EFI CD Menu.
3. Arrow key over to the Utilities and select the utility you want to run.

The Intel® Server System SR870BH2 Product Guide

The *Intel® Server System SR870BH2 Product Guide* comes as a single .PDF file shipped on the Resource CD. You can use the Adobe* Acrobat* Reader to view the product guide.