**Freescale Semiconductor**
Hardware Getting Started

# Addendum to HPC II User's Guide: Quick-Start Guide

This quick-start guide explains how to prepare the High-Performance Computing Platform II (HPC II) evaluation board, connect it to a host system, and boot Linux. For more information about the platform, consult the HPC II user's guide, entitled *HPC II—A High-Performance, Low-Profile Server System* (HPCIIUG).

**Contents**

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# 1    Connect HPC II

This section describes how to connect the HPC II system to the local host computer and configure terminal emulator software to communicate with HPC II. Figure 1 shows a rear view of the HPC II evaluation board chassis.
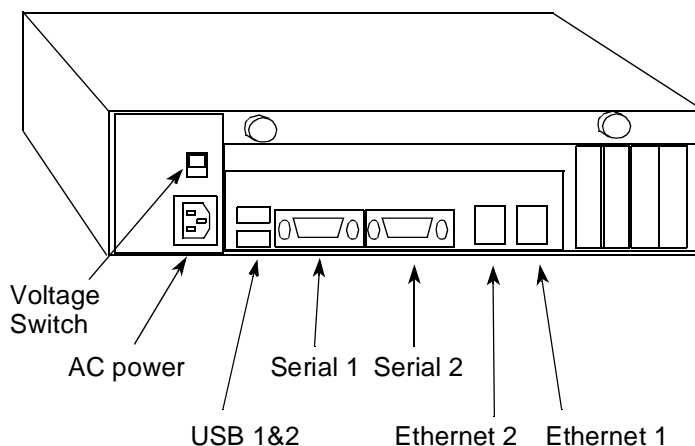


**Figure 1. HPC II Evaluation Board Chassis—Rear View**

To connect the Ethernet, serial, and power cables, perform the following steps:

1. Connect the AC power cable. Verify that the voltage switch is set to match the local AC power line voltage (115 V @ 60 Hz, or 230V @ 50 Hz).
2. Plug the power supply into a surge-protected strip (recommended).
3. Connect the surge-protected strip to an AC outlet.
4. Connect the serial cable between the Serial 1 connector and the host-computer serial port (COM1 or COM2).
5. If network capability is desired, connect the Ethernet cable between the Ethernet 1 port and the local network or hub (Ethernet 2 port can also be used).

Set up serial communications on the host system using a terminal emulator of choice (for example, HyperTerminal) as follows:

- Baud rate: 115200 kbps
- Data bits: 8
- Stop bits: 1
- Parity: None
- Flow control: None

  **Note:** Due to an erratum on early revisions of the TSI108, early boards required the use of two stop bits. This issue has been fixed, and all boards now ship using one stop bit.

**Quick-Start Guide, Rev. 2**

# 2 Power Up and Log On

To power up the system, press the power button on the front panel. Figure 2 shows a front view of the HPC II evaluation board chassis.
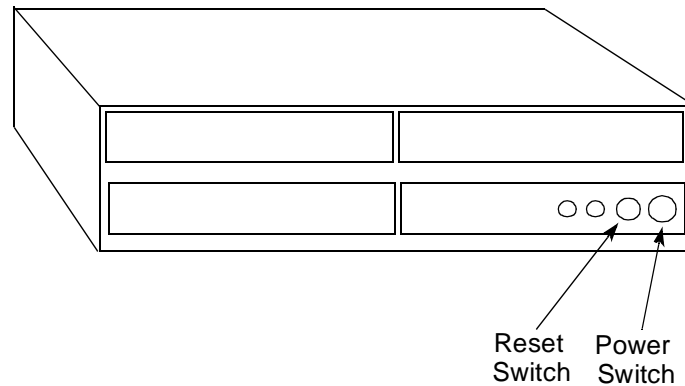


Reset Switch    Power Switch

**Figure 2. HPC II Evaluation Board Chassis—Front View**

When powered up, the system automatically boots. By default, U-boot boots the system and automatically boots Linux. After the system powers up, log on as follows:

1. Wait for the system to boot (this may take several minutes). The terminal displays numerous messages while booting.
2. If necessary, the boot process can be interrupted by pressing any key while U-boot is booting up. Booting can be resumed by executing the **boot** command at the U-boot prompt.
3. At the login prompt, enter the user name 'root', and default password 'root'. The same username and password are also used to connect remotely through Ethernet.
4. The Linux command prompt appears, indicating that Linux has successfully booted.

# 3 What's Inside

This section describes how to open the case to verify factory default settings and change system hardware settings. To change system settings, or if the system does not appear to operate correctly, the case must be opened.

### CAUTION:

Always observe appropriate static precautions while performing the operations described in this section.

To open the case, perform the following steps:

1. Power down the system by pressing the power button on the front panel.
2. Disconnect the AC power cable.
3. Remove the two thumbscrews at the top of the rear panel; see Figure 3.
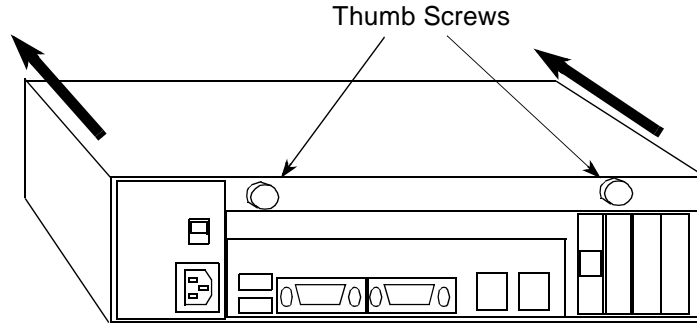
Thumb Screws

**Figure 3. Removing the Cover—Rear View**

5. Grasping each side of the case, slide the top of the case forward and then lift and remove the top cover. Figure 4 is a diagram of the HPC II evaluation board.
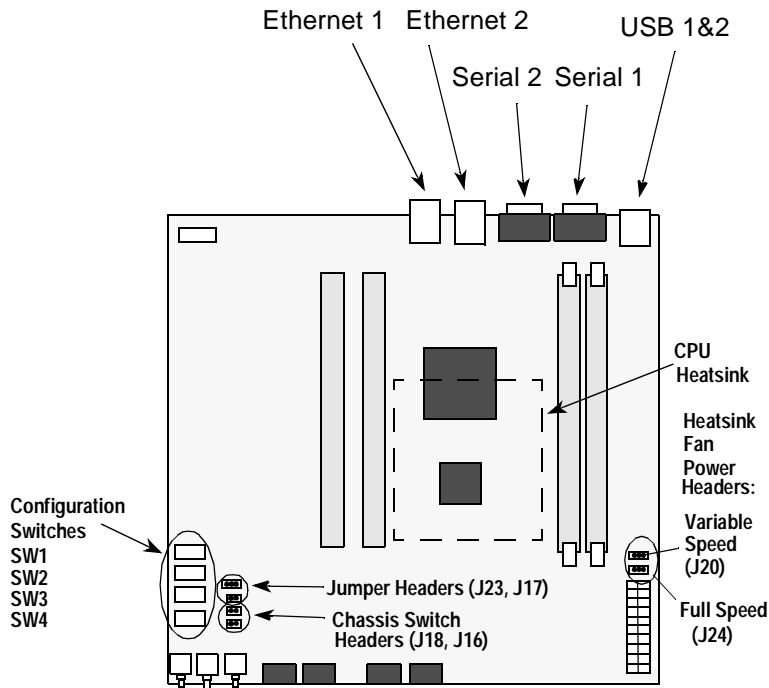
Ethernet 1   Ethernet 2          USB 1&2

Serial 2  Serial 1

CPU
Heatsink

Heatsink
Fan
Power
Headers:

Configuration
Switches
SW1
SW2                    Jumper Headers (J23, J17)          Variable
SW3                                                        Speed
SW4                    Chassis Switch                     (J20)
                       Headers (J18, J16)
                                                          Full Speed
                                                          (J24)

**Figure 4. HPC II Evaluation Board Diagram**

To confirm factory settings for jumper headers, perform the following steps:

1. Verify that no jumper is in header J17.

2. Verify the presence of a jumper between pins 1 and 2 of header J23.

3. If the heatsink includes a fan, verify that the CPU fansink power cable is connected to the full-speed fansink power header (J24).

   For heatsinks without a fan, ignore this step. Note that for variable-speed fan control, the variable-speed fansink power header (J20) can be used instead. Use of J24 ensures that software does not accidentally turn the fan off because this header is always powered at full voltage.

4.  Verify that the chassis power switch is connected to header J18.

5.  Verify that the chassis reset switch is connected to header J16.

The next procedure is to verify and/or change configuration switch settings. Switch functions and default settings are provided in the HPC II user's guide, entitled *HPC II—A High-Performance, Low-Profile Server System* (HPCIIUG). Following are typical examples of settings or modes:

1.  Boot DINK32 instead of U-boot/Linux.

    Set SW3-4 (SW3, position 4) to ON.

2.  Disable the USB to enable 66 MHz PCI/PCI-X capability for Slot 1, Slot 2, and SATA.

    Set SW3-6 to ON (note that SW3-5 must be OFF in this case).

3.  Disable USB, SATA, and Slot 2 to enable 133 MHz PCI-X capability for Slot 1.

    Set SW3-5 to ON.

### CAUTION:

Some switch settings, especially those controlling CPU core voltage and frequency, may cause unreliable operation and/or device damage. Consult the HPC II user's guide before changing any switch settings from their factory default positions.
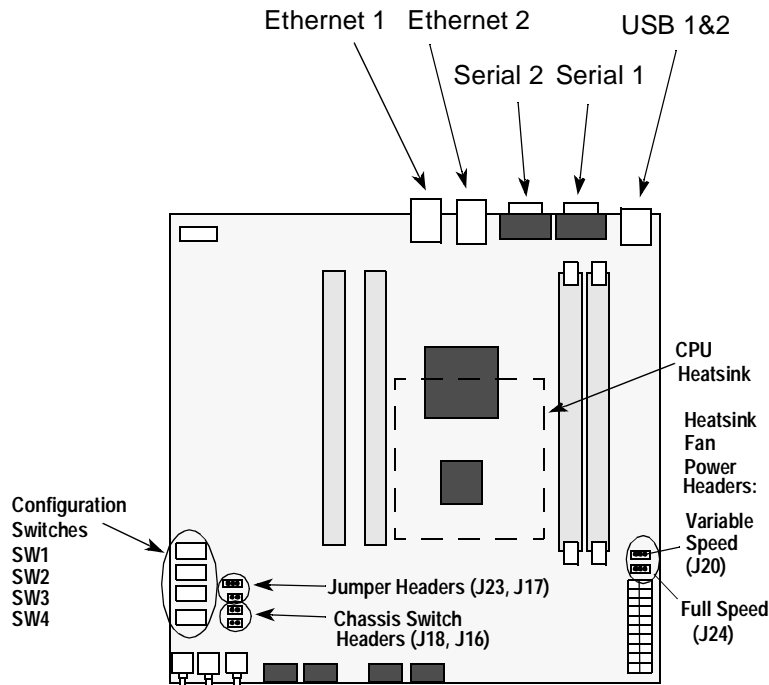
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