PowerLeap PL-P3/Xeon-S™ *Installation Guide*

Slot 2 Server/Workstation CPU Upgrade Adapter
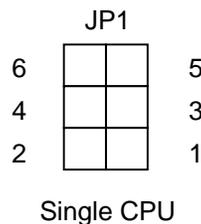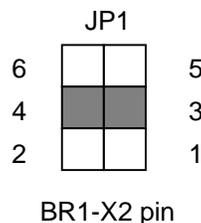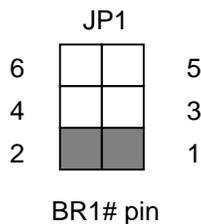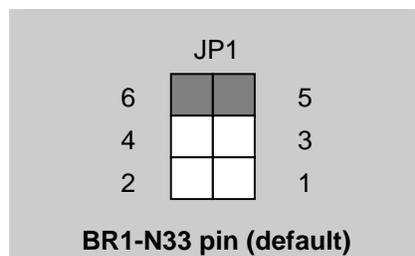
Before You Start...

- Check the website of your system or motherboard manufacturer to see if they are offering an updated BIOS version for your system. If you need to upgrade your system BIOS, do so before removing your old CPU.

For more information about BIOS upgrades, refer to "Upgrading Your Computer's BIOS" later in this document.

- Update your computer's sound and video drivers.
- Select the frontside bus speed and dual CPU pin signal by configuring jumper settings on the PL-P3/Xeon-S.
- Unplug your system and remove the cover.

PL-P3/Xeon-S Jumper Settings

JP1: Dual CPU Signal

JP1		
6	▓	5
4		3
2		1

BR1-N33 pin (default)

JP1		
6		5
4	▓	3
2		1

BR1-X2 pin

JP1		
6		5
4		3
2	▓	1

BR1# pin

JP1		
6		5
4		3
2		1

Single CPU

What is the PowerLeap PL-P3/Xeon-S?

The PowerLeap PL-P3/Xeon-S™ provides an effective CPU upgrade path for dual-CPU Slot 2 (Pentium II Xeon™ and Pentium III Xeon™-based) servers/workstations. With the innovative PL-P3/Xeon-S, you can obtain significantly faster performance (up to 1.4GHz) from your server/workstation by upgrading to Intel Pentium III-S™ ("Tualatin" core, 512KB L2 cache) processors. The PL-P3/Xeon-S™ also supports the Intel Pentium III 1.13/1.2GHz and Celeron 1.0A~1.4GHz CPUs for single-CPU operation.

Installation

Installing the PL-P3/Xeon-S™ is quick and easy: First, remove the original processors from the motherboard's processor slots. Next, install the PL-P3/Xeon-S™ into the motherboard's processor slot and make power connections. (If your PL-P3/Xeon-S™ didn't come with a pre-installed CPU, refer to "Inserting a processor, applying thermal compound, and installing the heatsink/fan" later in this document.)

Removing the original processors from the CPU slots

The original Slot 2 processors. Be sure to disconnect the system power before continuing with your processor upgrade.

Removing the first processor (for details, refer to your motherboard manual).

Removing the second processor. We recommend using a small brush to remove any dust from the slots.

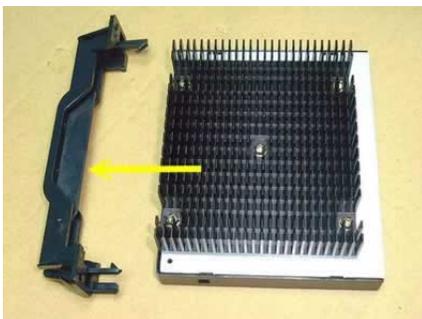### Installing the PL-P3/Xeon-S™ and connecting to a power supply

For most systems, you can connect the provided power cable directly from the PL-P3/Xeon-S to an unused 4-pin connector from the power supply.

Note: *To install dual processor upgrades, you'll need two unused 4-pin connectors from the power supply.*

Connecting the PL-P3/Xeon-S™ power cable to an unused connector from the power supply:

After removing both original CPUs.

Removing the retaining bracket from an original Slot 2 CPU.

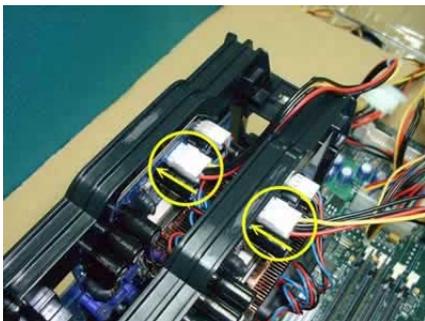*Attaching the retaining bracket to the PL-P3/Xeon-S.*

The PL-P3/Xeon-S after attaching the retaining bracket.

Inserting the first PL-P3/Xeon-S into a processor slot.

Inserting the second PL-P3/Xeon-S into a processor slot.

Connecting the PL-P3/Xeon-S's power cable (two 3-pin connectors) to the PW1 connectors on two PL-P3/Xeon-S's.

Connecting the 4-pin ends of the PL-P3/Xeon-S's power cable to unused 4-pin connectors from the power supply.

Dual PL-P3/Xeon-S's, installed and connected.

Important! *Do not connect the PL-P3/Xeon-S to a connector from a primary hard disk drive or other device (such as a CD-ROM drive). Sharing power with a secondary hard disk drive is possible only if the power consumption and frequency of usage are well considered.*

Other Power Connection Options

If you can't connect the PL-P3/Xeon-S to an unused connector from your power supply (as shown above)—for example, your power supply does not have any remaining unused connectors—we suggest several alternatives:

- Consider upgrading the power supply to obtain more reserved connectors (contact your system vendor for information on power supply upgrades).

- Contact PowerLeap for a custom-designed power cable solution (minimum order: 50 pcs*.).* Note that Compaq and Dell servers/workstations generally use their own proprietary power supply specifications.

Inserting a processor, applying thermal compound, and installing the heatsink/fan

You may find this section helpful if your PL-P3/Xeon-S™ didn't come with a pre-installed CPU.

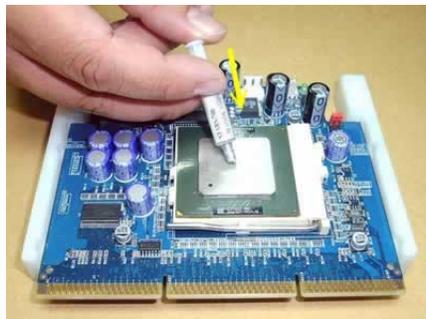**Inserting a processor into the PL-P3/Xeon-S™, applying thermal compound, and installing the heatsink/fan:**
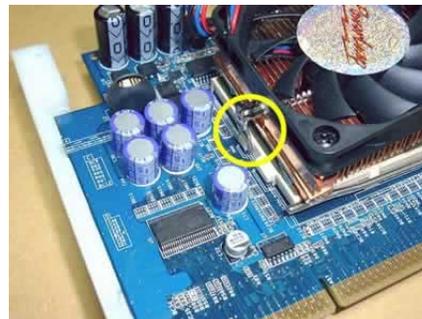

The PL-P3/Xeon-S's heatsink/fan (bottom view).

Peeling off the protective membrane.

The PL-P3/Xeon-S's heatsink/fan (bottom view) after removing protective membrane.
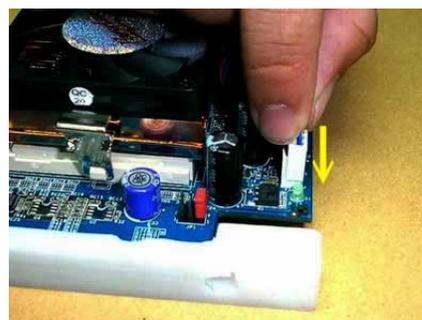

Applying thermal compound to the processor.

Attaching the heatsink/fan's retaining clip to the ZIF socket. (1)

Attaching the heatsink/fan's retaining clip to the ZIF socket. (2)

Attaching the heatsink/fan's retaining clip to the ZIF socket. (3)

Connecting the fan's power cable to the PL-P3/Xeon-S.

The PL-P3/Xeon-S after installing the heatsink/fan.

Troubleshooting

▪ If the computer won't boot (blank screen) with the PL-P3/Xeon-S™ installed, most likely the CPU is NOT inserted firmly in the upgrade adapter. Also make sure that you have selected the correct frontside bus speed for the new processor.

- If the system stops after memory counting or during system initialization, use more conservative BIOS settings for the main memory and cache memory (for example, change the "CL=2" to "CL=3"), and load the "Fail-Safe" or "BIOS Default Values" option in the BIOS setup. For more information, please refer to the BIOS Guide links listed below.

- If your PL-P3/Xeon-S encounters stability problems (i.e., periodic system freezes), it should be the result of *CPU overheating*. Please make sure the heatsink is properly connected and the fan is working. If overheating is suspected, you need to use "thermal compound" to improve the heat dissipation. We suggest that you read here (www.arcticsilver.com) for more details.

- SoundBlaster audio card users: please upgrade to the latest drivers, or the system may not work normally. This is a known problem with SoundBlaster cards when the CPU is changed. Check here: www.soundblaster.com/support/drivers/.

- For Adobe Photoshop 5.5 (or later) crashes or freezes, Adobe suggests moving the Extensions Folder out of the Plug-Ins folder. See www.adobe.com/support/techdocs/2256a.htm for more details.

- If your BIOS can't detect and report the new CPU speed and type (or displays an error message during POST), but the system otherwise boots and operates normally, please just ignore the message. The old BIOS was programmed long before the newer CPU became available. This won't affect the performance or compatibility at all. Please use benchmarking software such as WCPUID (www.h-oda.com) or SiSoftware Sandra (www.sisoftware.demon.co.uk/sandra/index.htm) to identify the new CPU.

- Remove any anti-virus program that you may be running before installing the PL-P3/Xeon-S. You can reinstall the anti-virus program after the upgrade installation.

Upgrading Your Computer's BIOS

Some motherboards may require a BIOS upgrade in order to work with the latest Pentium III and Celeron CPUs. For information about getting a BIOS upgrade for your computer system, start by visiting the brand-name manufacturer's web site. *Do this with your old CPU installed in the motherboard.* BIOS upgrades may be downloaded from the system vendor or the motherboard maker's website(s). If you can't find BIOS upgrade information there, try the following:

- Many brand-name computer manufacturers use OEM motherboards. Check the motherboard maker's ID, then go to their site to look for a BIOS upgrade. Look for upgrades at the sites of your motherboard's original BIOS manufacturer: AMI (www.amibios.com), Award (www.award.com), MR BIOS (www.mrbios.com), and Phoenix (www.ptltd.com) produce popular BIOS software.

- Wim's BIOS Page (www.wimsbios.com) discusses BIOS flashing in detail, and so do Lost Circuits (www.lostcircuits.com/advice/bios.html) and FlashBIOS (www.flashbios.org/). The BIOS Setup Information Guide (www.matrix-bios.nl/frames.html), Tom's Hardware BIOS Guide (www.tomshardware.com/bios.html), and the BIOS Optimization Guide (http://www.rojakpot.com/bog.aspx) also offer a wealth of BIOS information.

Important! When installing the latest BIOS for your system, be sure to follow the BIOS upgrade instructions carefully.

Visit our online technical support area at www.powerleap.com/support.