9 Install Optical Drive (optional)

IMPORTANT NOTE: If you do not install a device at this location, go to your accessory kit and install the optical device bay filler panel shown below. This is required to maintain proper system cooling.

A Install the plastic guide onto the back of the drive and attach with two screws as shown.

B Insert DVD/CD-ROM drive into chassis opening until it clicks into place.

Install CD-ROM Data Cable

Note: Both ends of the IDE cable are labeled.

A Connect one end of the IDE cable to the rear of the backplane board.

B Route cable through fan module slot next to the bridge board.

C Connect the opposite end of the IDE cable to the server board IDE connector.

IDE Ribbon Cable
Slot

10 Install I/O Expansion Module (optional)

Remove Module Covers

Prior to installing the I/O Module and/or the Intel® RMM Modules, you must remove the corresponding module cover(s).

A Squeeze the sides of each cover to disengage from the chassis back panel and remove.

Chassis Back Panel
I/O Expansion Module Cover
Intel® RMM Module Cover

Install I/O Expansion Module

A Install the three standoffs to the server board first.

B Attach module to the server board connector and matching standoff holes.

I/O Expansion Module (Dual Gigabit)
I/O Expansion Module (External SAS)
Snap Standoff
Standoff Hole

11 Install Intel® Remote Management Modules (optional)

Install Intel® RMM NIC Module

Install Foam Gasket

A A self-adhesive foam gasket is required to protect the underside of the NIC module. Remove the backing paper from the spacer and install as shown.

B Install the three standoffs to the server board first.

C Attach module to the server board connector and matching standoffs.

Note: NIC module is shown upsidedown.

Foam Gasket
Snap Standoff
Standoff Hole

Install Intel® RMM Module

A Insert the standoff into the hole labeled TH4 on the Intel® Remote Management Module. The standoff installs on the bottom side of the Intel® Remote Management Module.

B Attach the Intel® Remote Management Module to the server board connector and snap the standoff into the matching hole in the server board.

TH4
Snap Standoff
Intel® RMM Board Conn.
Standoff Snaps into Server Board Hole
Intel® RMM Server Board Connector
Server Board
I/O Ports

12 Remove Power Distribution Board Cover (optional)

This step is only necessary if you are installing the optional RAID Battery Backup Unit (BBU).

Power Distribution Board Cover

13 Install RAID Battery Backup Unit (BBU) (optional)

Check RAID BBU Battery Connection

A The RAID BBU has an internal battery power cable. Open the BBU case lid as shown.

B If the battery power cable is not connected, connect the cable now. Close and latch the BBU case lid.

Install RAID Battery

A The RAID BBU has two hooks on the underside. Align these hooks with the matching chassis tabs, then slide toward the power supply to lock into place.

B Connect the power cable between the BBU and the midplane board as shown.

Battery
Power Supply
Chassis Tab(2)
Midplane RAID BBU Connector

Install RAID DIMM and RAID Activation Key (optional) to Active Midplane Board

A Open both DIMM socket levers.

B Note location of alignment notch.

C Insert DIMM making sure the connector edge of the DIMM aligns correctly with the slot.

D Push firmly on the DIMM until it snaps into place and both levers close.

E Install RAID activation key by inserting into RAID key socket as shown. Make sure socket metal clips snap securely over top edge of key.

RAID Key
Metal Clip (2)
Open Levers
Alignment Notch

CAUTION: Avoid touching contacts when handling or installing the RAID DIMM.

14 Install Power Distribution Board Cover

A Install power distribution board cover by aligning with the power distribution board and the matching thumbscrew hole.

B Note that the thumbscrew attaches to a chassis standoff underneath the PDB. If the PDB is not installed correctly, the thumbscrew will not align with the standoff.

Power Distribution Board Cover
Power Distribution Board
PDB
Chassis Standoff

15 Install Add-in Card(s)

A Open rear retention clip by pushing the blue slide upward and rotating the clip fully open.

B Remove filler panel from the selected add-in card slot.

C Insert add-in card until it seats in riser connector.

D Close both retention clips. Note: Make sure that all empty add-in card slots have filler panels installed.

CAUTION: Observe normal ESD precautions when installing add-in cards.

Note: Add-in card install sequence for low-profile add-in cards on opposite side of PCI riser is the same.

16 Install PCI Add-in Card Riser Assembly

Note: The PCI riser assembly includes an intrusion switch that engages the system cover. Do not use the intrusion header located on the server board.

Intrusion Switch

A Position riser card edge connector(s) over the server board riser socket(s).

Server Board Sockets

B Press down uniformly until the four hooks on the rear of the PCI riser assembly engage the chassis back panel slots. The riser cards will seat into the matching sockets on the server board.

Hook (4)
Slot (4)
Riser Sockets

17 Second Processor Duct Modification

Configure Processor Air Duct for Two Processors

Note: This step only applies if your system has two processors. If only one processor is installed, leave the air baffle in place and proceed to Step 20.

CAUTION: For a one-processor configuration, the air baffle must be in place to ensure proper cooling.

A Remove air baffle by rocking back and forth until it breaks off.

Underside View
Second Processor Air Baffle ... remove only if system has two processors.

18 Install Processor Air Duct

Install processor air duct as shown.

19 Install Hard Drives/Carriers

A Remove the drive carrier by pressing the green button.

B Install the hard disk drive as shown.

C Install hard disk drive assembly into chassis opening.

CAUTION: If you install less than eight drives or devices, empty drive bays must be occupied by carriers with baffles to maintain proper system cooling.

Note: Carrier lever must be held in the FULLY OPEN position to install into chassis. Slide carrier into chassis until it stops, then rotate the lever until it snaps shut.

Attach with four screws.
Press green button to open lever.

Hard Drive Numbering Diagram

Drive 0 Primary Drive Bay

Repeat these steps for each installed hard drive

20 Install Second Power Supply (optional)

A Remove filler panel

B Install second power supply

21 Install Bezel (optional)

22 Install Bezel (optional)

23 Install Top Cover

Note: Security screw re-installation is optional.

24 Finishing Up

Before installing your operating system, you must finish your system installation and connect back panel I/O connectors and AC power.

1. Replace the system cover.
2. Connect your keyboard, mouse, video and other I/O cables/devices as shown. Then connect the AC power cord.

IMPORTANT NOTE: You must download and install the latest Intel® Remote Management Module software for the Intel® RMM board to work properly with your server board.
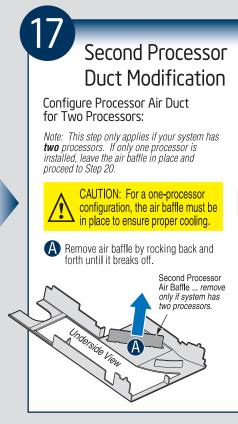
Mouse
NIC1-2
USB 0, 1
GCM3 Module
AC Power
Keyboard
Network
I/O Module
Serial Port B
Video

CAUTION: This unit must be operated with the TOP COVER installed to ensure proper cooling.

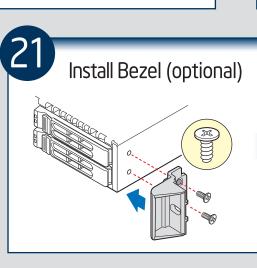## 25 Software • BIOS, Drivers, and Operating System Installation

A. Confirm BIOS Version: Look on the Server/System Management screen in the BIOS Setup Utility to determine the installed BIOS version. Compare this to the versions at: http://support.intel.com/support/motherboards/server/s5000pal If new versions are available, update the BIOS on your server. See the User Guide on the Intel® Server Deployment Toolkit 2.0 CD for update instructions.
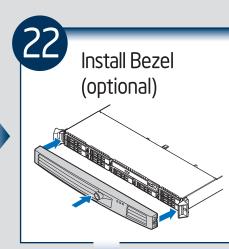
B. Configure your RAID Controller: Use the instructions provided with the RAID controller.

C. Install your Operating System: Use the instructions provided with the RAID controller and with the operating system.
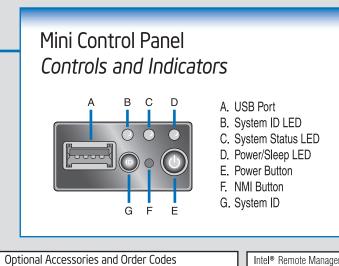
D. Install Operating System Drivers: With the operating system running, insert the Intel® Server Deployment Toolkit 2.0 CD. If using a Microsoft* Windows* operating system, the Intel® Deployment Assistant will autorun and allow you to select the appropriate drivers to install. On other operating systems, browse the CD folders to locate and install the driver files.
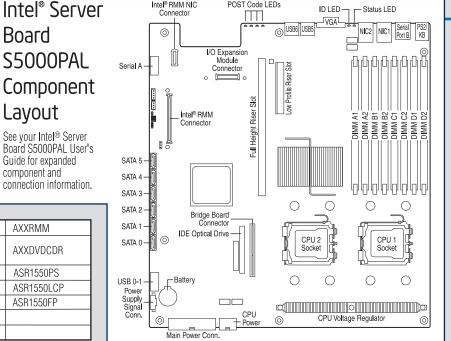
E. Install Intel® SMaRT Tool (optional): With the operating system running, insert the Intel® Server Deployment Toolkit CD. The Express Installer will autorun. Click Intel® SMaRT Tool at the left side of the screen. Follow the on-screen instructions. For information about Intel® SMaRT Tool, see http://developer.intel.com/design/servers/smarttool/index.htm.

Reference

Mini Control Panel Controls and Indicators

A. USB Port
B. System ID LED
C. System Status LED
D. Power/Sleep LED
E. Power Button
F. NMI Button
G. System ID

Intel® Server Board S5000PAL Component Layout

See your Intel® Server Board S5000PAL User's Guide for expanded component and connection information.

Intel® RMM NIC Connector
POST Code LEDs
ID LED
Status LED
USB
VGA
NIC2
NIC1
PS2 KB
I/O Expansion Module Connector
Serial A
Full Height Riser Slot
Low Profile Riser Slot
Intel® RMM Connector
DIMM A1
DIMM A2
DIMM B1
DIMM B2
DIMM C1
DIMM C2
DIMM D1
DIMM D2
SATA 5
SATA 4
SATA 3
SATA 2
SATA 1
SATA 0
Bridge Board Connector
IDE Optical Drive
CPU 2 Socket
CPU 1 Socket
USB 0-1
Power Supply Signal Conn.
Battery
CPU Power
Main Power Conn.
CPU Voltage Regulator

Optional Accessories and Order Codes	
Tool-less Rail Kit	AXXHERAIL
Cable Management Arm	AXXRACKCARM
Basic Slide Rail Kit	AXXBASICRAIL
Fixed Rack Brackets	AXXBRACKETS
Bezel for Standard Control Panel	ASR1550BEZ
Bezel for Intel® Local Control Panel	ASR1550LCDBEZ
Bezel for Intel® Mini Control Panel	ASR1550MINBEZ

Intel® Remote Management Module	AXXRMM
Slimline DVD-ROM/ CD-ROM Drive	AXXDVDCDR
650W Power Supply	ASR1550PS
Intel® Local Control Panel Module	ASR1550LCP
Standard Control Panel Module	ASR1550FP

A complete list of accessories and spares can be found at: www.intel.com/go/serverbuilder

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