



Intel® Server S2600ST Product Family

Intel® Server Board S2600ST Product Family

Intel® Server Chassis P4000 Product Families

Configuration Guide

A reference document to identify available Intel® Server building blocks, accessories, and spare parts associated with the Intel® Server S2600ST product family.

Rev 2.2

May 2021

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Document Revision History

| Date Published | Revision | Revision Change Description |
|----------------|----------|--|
| June 2017 | 1.0 | Production release |
| June 2017 | 1.01 | Updated product codes for accessory kits and spares |
| July 2017 | 1.02 | Updated missing UPC and EAN codes for accessory kits and spares |
| August 2017 | 1.03 | Added compatible legacy accessory kits |
| August 2017 | 1.04 | Updated iPC-FXX750PCRPS MM# Updated iPC-S2600STQ, iPC-BBS2600STB and iPC-BBS2600STQ availability date |
| October 2017 | 1.05 | Updated availability dates for all products Updated information of 1U and 2U heatsinks Added Intel® VROC keys |
| June 2018 | 1.06 | Changed Intel® VROC keys to RAID accessories options Added title to the description of products that didn't have one Updated iPC-FXX750PCRPS UPS and EAN codes Updated wrong numbers in the table of contents Added images to AXXSTPHMKIT2U and AXXSTPHMKIT1U kits |
| September 2018 | 1.07 | Added retimer card Updated links to intel webpages Added EOL information for chassis P4304XXMFEN2 |
| October 2018 | 1.08 | Fixed a typo on page 6 changed AXXTPE8 for AXXTPMCHNE8 Added heatsink as Required Items-Sold Separately on pages 13 and 14 Added EOL information to FUP550SNRPS |
| April 2019 | 2.0 | Added S2600STxR information including support for 2 nd Gen Intel® Xeon® processor Scalable family Updated formatting and edited for clarity |
| June 2019 | 2.1 | Reworded the note of processor row in Table 4 Corrected information on Included and Required Items sections of Table 9 Changed picture of front bezel FUPBEZELHSD2 in Table 25 Changed MM# of RSP3WD080E, RSP3TD160F and RSP3DD080F RAID controllers on Table 26 Added EOL information to AXXCWIOS |
| May 2021 | 2.2 | Added A2U4PRTCXCXK cable kit Fixed some typos |

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1. Intel® Server Family Overview

This document provides a catalog of available Intel® server products, accessories, and spares in the Intel® Server S2600ST product family.

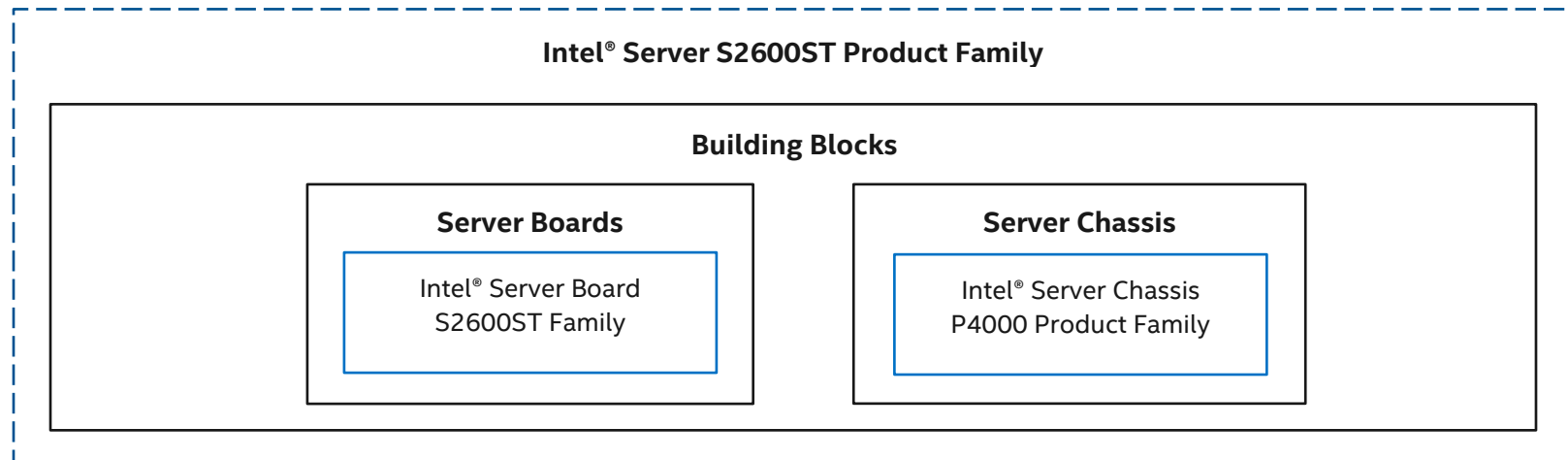


Figure 1. Intel® Server S2600ST product family overview

1.1 Configuration Overview

The Intel Server S2600ST product family is offered as server building blocks.

- **Intel® Server Board S2600ST family** – A family of server board only products (server building block option and spare FRU).
- **Intel® Server Chassis P4000 product family** – A family of pedestal/4U rack mount server chassis only products. See Section 1.4 for compatible chassis models.

Important Note: All product order codes ending with 'R' identify new product versions that are available as of revision 2.0 of this document. While product order codes not ending with 'R' may be referenced within this document, only product order codes ending in '(R)' cover both SKU derivations. (i.e. S2600STB(R) covers S2600STB and S2600STBR.)

1.1.1 Processor Support

The Intel® Server S2600ST product family has support for 1st and 2nd Gen Intel® Xeon® processor Scalable family as identified in Figure 2.

Note: Previous generation Intel® Xeon® processors and previous-generation processor heat sinks are not compatible on server boards described in this document.

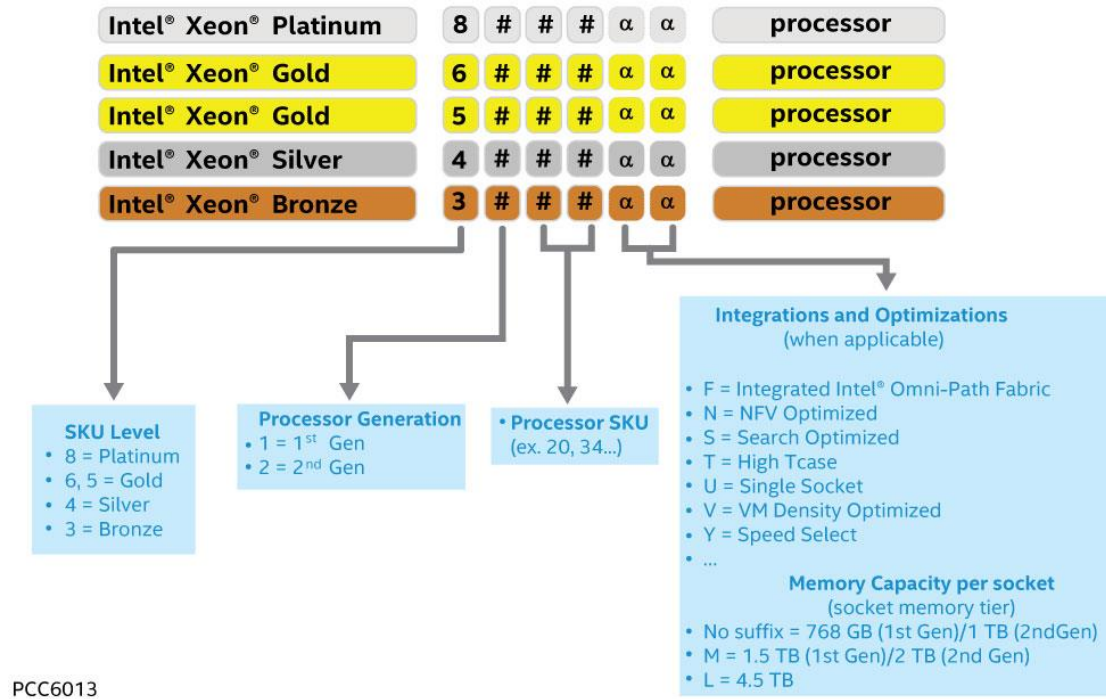


Figure 2. Intel® Xeon® processor Scalable family generation identification

Note: In 2019, Intel released the 2nd Gen Intel® Xeon® processor Scalable family. To enable support for the new processor family, Intel created an updated system software stack including the system BIOS and other system firmware.

In support of the 2nd Gen Intel Xeon processor Scalable family, Intel began pre-loading the supporting system software stack onto all server boards in the Intel® Server S2600ST product family. All server boards with pre-loaded system software stacks compatible with the 2nd Gen Intel® Xeon® processor Scalable family can be identified by a product order code ending in 'R'.

Existing server boards in the Intel® Server S2600ST product family with product codes that do NOT end in 'R' can be made to support the 2nd Gen Intel® Xeon® processor Scalable family by updating the system software stack. A system update package (SUP) with the latest system software stack can be downloaded from <https://downloadcenter.intel.com>.

Table 1. 1st Gen Intel® Xeon® processor Scalable family feature comparison

| Feature | 81xx Platinum | 61xx Gold | 51xx Gold | 41xx Silver | 31xx Bronze |
|--------------------------------------|---|--|--------------------|----------------|----------------|
| # of Intel® UPI links | 3 | 3 | 2 | 2 | 2 |
| Intel® UPI speed | 10.4 GT/s | 10.4 GT/s | 10.4 GT/s | 9.6 GT/s | 9.6 GT/s |
| Supported topologies | 2S-2UPI 2S-3UPI 4S-2UPI 4S-3UPI 8S-3UPI | 2S-2UPI 2S-3UPI 4S-2UPI 4S-3UPI | 2S-2UPI 4S-2UPI | 2S-2UPI | 2S-2UPI |
| Node controller support | Yes | Yes | No | No | No |
| # of memory channels | 6 | 6 | 6 | 6 | 6 |
| Max DDR4 speed | 2666 MT/s | 2666 MT/s | 2400 MT/s | 2400 MT/s | 2133 MT/s |
| Memory capacity | 768 GB 1.5 TB (select SKUs) | 768 GB 1.5 TB (select SKUs) | 768 GB | 768 GB | 768 GB |
| RAS capability | Advanced | Advanced | Advanced | Standard | Standard |
| Intel® Turbo Boost Technology | Yes | Yes | Yes | Yes | No |
| Intel® Hyper-Threading Technology | Yes | Yes | Yes | Yes | No |
| Intel® AVX-512 ISA support | Yes | Yes | Yes | Yes | Yes |
| Intel® AVX-512 - # of 512b FMA units | 2 | 2 | 1 | 1 | 1 |
| # of PCIe* lanes | 48 | 48 | 48 | 48 | 48 |

Table 2. 2nd Gen Intel® Xeon® processor Scalable family feature comparison

| Feature | 82xx Platinum | 62xx Gold | 52xx Gold | 42xx Silver | 32xx Bronze |
|--------------------------------------|---|--|--|----------------|----------------|
| # of Intel® UPI links | 3 | 3 | 2 | 2 | 2 |
| Intel® UPI speed | 10.4 GT/s | 10.4 GT/s | 10.4 GT/s | 9.6 GT/s | 9.6 GT/s |
| Supported topologies | 2S-2UPI 2S-3UPI 4S-2UPI 4S-3UPI 8S-3UPI | 2S-2UPI 2S-3UPI 4S-2UPI 4S-3UPI | 2S-2UPI 4S-2UPI | 2S-2UPI | 2S-2UPI |
| Node controller support | Yes | Yes | No | No | No |
| # of memory channels | 6 | 6 | 6 | 6 | 6 |
| Max DDR4 speed (1 DPC) | 2933 MT/s | 2933 MT/s | 2666 MT/s | 2400 MT/s | 2133 MT/s |
| Max DDR4 speed (2 DPC) | 2666 MT/s | 2666 MT/s | 2666 MT/s | 2400 MT/s | 2133 MT/s |
| Memory capacity | 1 TB 2 TB (select SKUs) 4.5 TB (select SKUs) | 1 TB 2 TB (select SKUs) 4.5 TB (select SKUs) | 1 TB 2 TB (select SKUs) 4.5 TB (select SKUs) | 1 TB | 1 TB |
| RAS capability | Advanced | Advanced | Advanced | Standard | Standard |
| Intel® Turbo Boost Technology | Yes | Yes | Yes | Yes | No |
| Intel® Hyper-Threading Technology | Yes | Yes | Yes | Yes | No |
| Intel® AVX-512 ISA support | Yes | Yes | Yes | Yes | Yes |
| Intel® AVX-512 - # of 512b FMA units | 2 | 2 | 1 | 1 | 1 |
| Intel® AVX-512 VNNI | Yes | Yes | Yes | Yes | Yes |
| # of PCIe* lanes | 48 | 48 | 48 | 48 | 48 |

1.1.2 Memory Support

The Intel® Server Board S2600ST product family has support for the following memory:

- Registered DDR4 (RDIMM), Load Reduced DDR4 (LRDIMM) at rates of up to 2933 MT/s (Processor dependent. See Table 1 and Table 2.)
- DDR4 standard voltage of 1.2 V

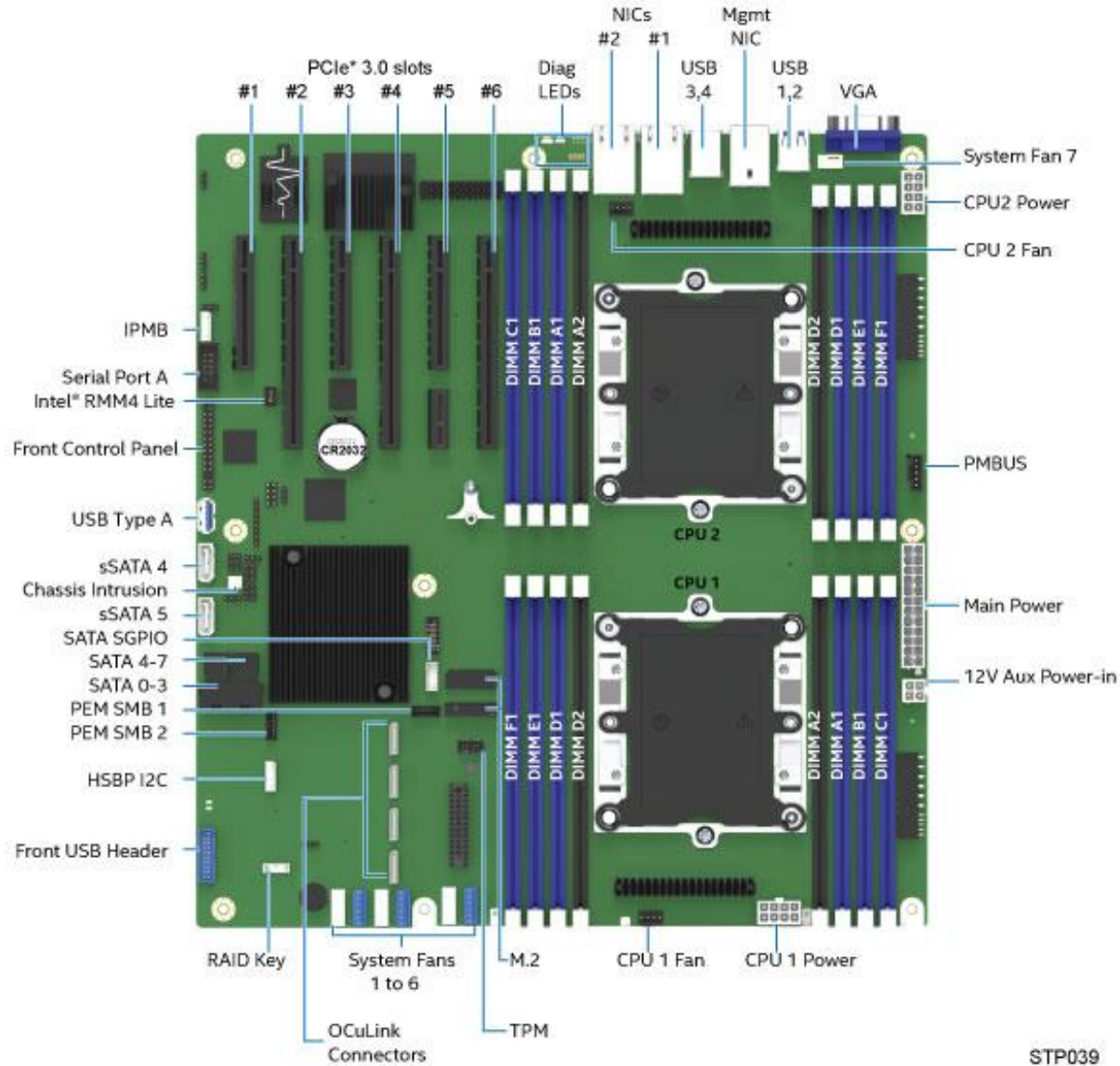
1.2 Additional Information and Software

For additional information about this family of products or any of their supported accessories, refer to the following resources available at <http://www.intel.com/support>.

Table 3. Product family reference collaterals

| For this information or software | Use this document or software |
|---|--|
| For in-depth technical information about this product family | <i>Intel® Server Board S2600ST Technical Product Specification</i> <i>Intel® Server System P4000G Product Family Technical Product Specification</i> <i>Intel® Remote Management Module 4 (Intel® RMM4) and BMC Embedded Web Console User Guide</i> <i>Intel® Remote Management Module 4 Technical Product Specification</i> <i>Intel® Server System BIOS Setup Utility Guide</i> <i>Safety and Regulatory Compliance Information for Intel® Server System 4600/2600/2400/1600 Families</i> |
| For system integration and service instructions | <i>Intel® Server Chassis P3404XXMFEN2/P4304XXMUXX Product Family System Integration and Service Guide</i> (https://www.intel.com/content/www/us/en/support/articles/000024348/) |
| For server configuration guidance and compatibility | Intel® Server Configurator Tool (http://serverconfigurator.intel.com/) |
| For system firmware updates, onboard device drivers, and software | Download Center (https://downloadcenter.intel.com/search?keyword=S2600ST) |
| For system power budget guidance | Intel® Server Board S2600ST Product Family Power Budget and Thermal Configuration Tool (https://downloadcenter.intel.com/download/27478/) |
| For a complete list of supported processors, memory, add-in cards, and peripherals | Intel® Server Board S2600ST family support site (https://www.intel.com/content/www/us/en/support/products/93168/server-products/server-boards/intel-server-board-s2600st-family.html) |
| Product warranty Information | Warranty Terms and Conditions (https://www.intel.com/content/www/us/en/support/services/000005886.html) |

1.3 Intel® Server Board S2600ST Product Family



STP039

Figure 3. Intel® Server Board S2600ST onboard features

Note: Intel® Server Board S2600STQ(R) has two OcuLink connectors.

Table 4 lists the features of the available server boards in the Intel® Server Board S2600ST product family.

Table 4. Intel® Server Board S2600ST product family features

| Intel® Server Board Feature | S2600STB(R) | S2600STQ(R) |
|-----------------------------------|---|--|
| Processor | <ul style="list-style-type: none"> • (2) – LGA3647-0 (Socket P) processor sockets • Supports (1) or (2) processors from the 1st or 2nd Gen Intel® Xeon® processor Scalable family (Platinum, Gold, Silver, and Bronze). Note: Previous generation Intel® Xeon® processors are not supported. • Maximum supported Thermal Design Power (TDP) of up to 205 W (board only) <p>Note: Server systems based on this server board family may support a lower maximum Thermal Design Power (TDP). See the appropriate chassis specifications for maximum supported TDP.</p> | |
| Processor Intel® UPI Links | 2 | |
| Memory | <ul style="list-style-type: none"> • (16) – total DIMM slots (8 per processor) <ul style="list-style-type: none"> ◦ (6) – memory channels per processor ◦ (1) – DIMM slot per channel on (4) channels; (2) – DIMM slots per channel on (2) channels • DDR4 Registered DIMM (RDIMM) and Load Reduced DIMM (LRDIMM), up to 2933 MT/s (dependent on processor), 1.2 V | |
| Intel® C62x Series Chipset | Intel® C624 Chipset | Intel® C628 Chipset |
| Intel® QAT | No | Supported |
| LAN | <ul style="list-style-type: none"> • Onboard dual-port RJ45 10 GbE • Optional riser aligned to slot 5 with (2) 10 Gb SFP+ connectors | |
| Onboard PCIe* NVMe* | <ul style="list-style-type: none"> • (4) – OCUlink connectors • Intel® VMD support • Intel® VROC support (accessory option) | <ul style="list-style-type: none"> • (2) – OCUlink connectors • Intel® VMD support • Intel® VROC support (accessory option) |
| Onboard SATA | <ul style="list-style-type: none"> • (12) – SATA 6 Gbps ports (6 Gb/s, 3 Gb/s and 1.5 Gb/s transfer rates supported) <ul style="list-style-type: none"> ◦ (2) – single port 7-pin SATA connectors ◦ (2) – M.2 connectors – SATA/PCIe* ◦ (2) – 4-port mini-SAS HD (SFF-8643) connectors • Embedded SATA Software RAID <ul style="list-style-type: none"> ◦ Intel® Rapid Storage RAID Technology (Intel® RSTe) 5.0 ◦ Intel® Embedded Server RAID Technology 2 1.60 with optional RAID 5 key support <p>Note: Intel Embedded Server RAID Technology 2 is supported on 8-port SATA controller only.</p> | |
| PCIe* Add-In Card Slots | <ul style="list-style-type: none"> • Slot 1 – PCIe* 3.0 x8 slot (x8 electrical) handled by CPU2 • Slot 2 – PCIe* 3.0 x16 slot (x16 electrical) handled by CPU2 (riser capable) • Slot 3 – PCIe* 3.0 x8 slot (x8 electrical) handled by CPU2 • Slot 4 – PCIe* 3.0 x16 slot (x16 electrical) handled by CPU2 • Slot 5 – PCIe* 3.0 x8 slot (x8 electrical) handled by CPU1 • Slot 6 – PCIe* 3.0 x16 slot (x16 electrical) handled by CPU1 (riser capable) | |
| Video | <ul style="list-style-type: none"> • Integrated 2D video controller • 16MB of DDR4 video memory • (1) – DB-15 external connector | |
| USB | <ul style="list-style-type: none"> • (2) – external USB 3.0 ports • (2) – external USB 2.0 ports • (1) – internal type-A USB 3.0 port • (1) – internal 2 x 10-pin connector for optional 2x USB 2.0/3.0 port front panel support | |

| Intel® Server Board Feature | S2600STB(R) | S2600STQ(R) |
|-----------------------------|---|-------------|
| Serial Port | <ul style="list-style-type: none"> • (1) – internal DH-10 serial-A port connector | |
| Server Management | <ul style="list-style-type: none"> • Integrated baseboard management controller, IPMI 2.0 compliant • Support for Intel® Server Management software • Dedicated onboard RJ45 management port • Advanced server management via Intel® RMM4 Lite – iPC AXXRMM4LITE2 (accessory option) | |
| Security | <ul style="list-style-type: none"> • Trusted platform module 2.0 (Rest of World) – iPC AXXTPMENC8 (accessory option) • Trusted platform module 2.0 (China Version) – iPC AXXTPMCHNE8 (accessory option) | |
| System Fan | <ul style="list-style-type: none"> • (2) processor fans through 4-pin headers • Up to (6) front system fans through 6-pin headers • (1) rear system fan through a 4-pin header | |

1.4 Intel® Server Chassis P4000 Product Family

The Intel® Server Board S2600ST product family is compatible with the following Intel® Server Chassis P4000 family options:

- Intel® Server Chassis P4304XXMFEN2 (discontinued)
- Intel® Server Chassis P4304XXMUXX

The main features of these chassis options are identified in Figure 4 and Figure 5.

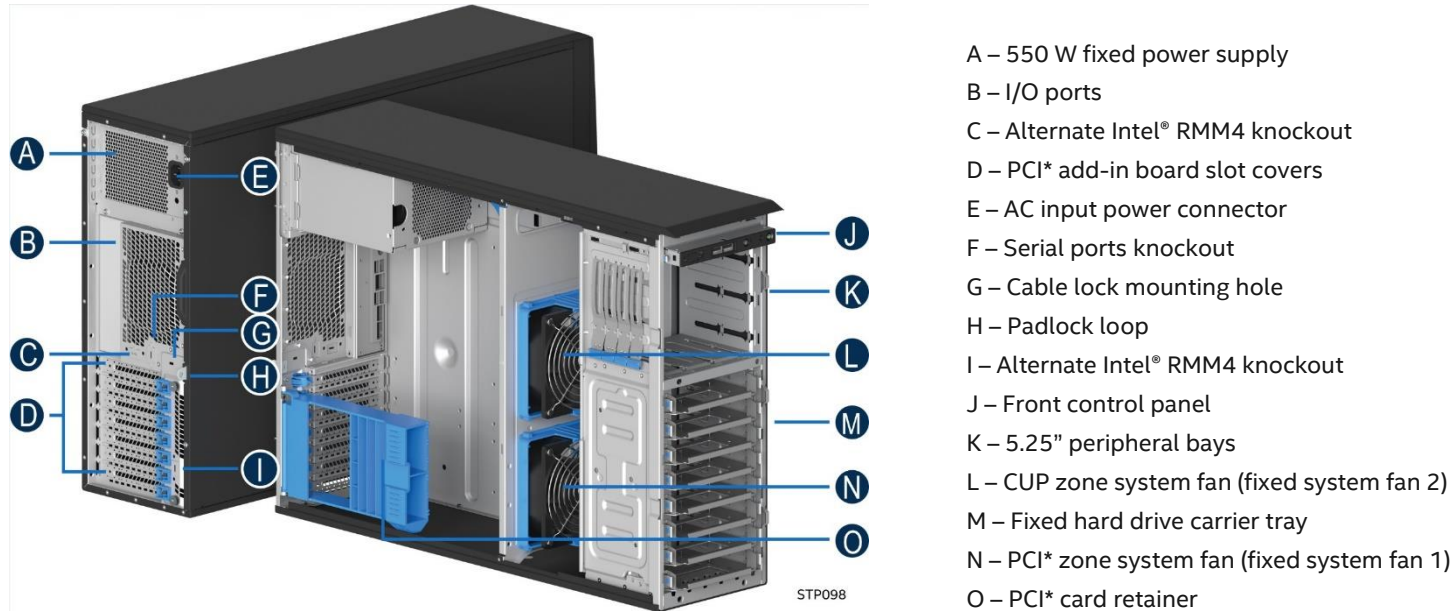
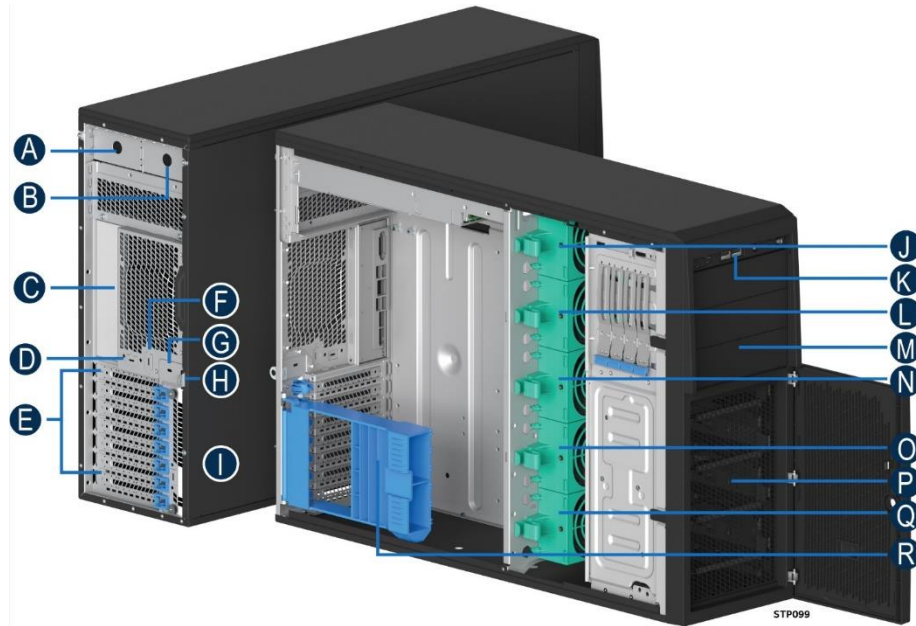


Figure 4. Intel® Server Chassis P4304XXMFEN2 feature set identification



- A – Filler 1 for one hot-swap power supply module
- B – Filler 2 for one hot-swap power supply module
- C – I/O ports
- D – Alternate Intel® RMM4 knockout
- E – PCI* add-in board slot covers
- F – Serial ports knockout
- G – Cable lock mounting hole
- H – Padlock loop
- I – Alternate Intel® RMM4 knockout
- J – Hot-swap system fan 5
- K – Front control panel
- L – Hot-swap system fan 4
- M – 5.25" peripheral bays
- N – Hot-swap system fan 3
- O – Hot-swap system fan 2
- P – Fixed hard drive carrier tray
- Q – Hot-swap system fan 1
- R – PCI* card retainer

Figure 5. Intel® Server Chassis P4304XXMUXX feature set identification

1.5 Available Server Board and Chassis SKU Summary

The following tables provide an overview of available Intel product codes for building blocks and systems within the Intel® S2600ST product family. Each line item identifies key features supported in the shipping Intel SKU. Additional order code information and full product descriptions for each option are provided in later sections.

The following terms are used in the tables:

- **N/A:** Not applicable.
- **Opt:** Accessory option sold separately.
- **Yes:** Option included.

Table 5. Server board product family summary

| Intel Product Code (iPC) | # of CPU sockets | # of DIMM Slots | # of Add-In Card Slots | Onboard 10GbE LAN ports | Onboard SATA ports (6 Gb) | Onboard NVMe* Ports | Onboard Video | Intel® QAT Support | Onboard System Fan Support |
|--------------------------|------------------|-----------------|------------------------|-------------------------|---------------------------|---------------------|---------------|--------------------|----------------------------|
| S2600STB(R) | 2 | 16 | 6 | 2 | 12 | 4 | Yes | No | Up to 7 |
| S2600STQ(R) | 2 | 16 | 6 | 2 | 12 | 2 | Yes | Yes | Up to 7 |

Table 6. Server chassis product family summary

| Intel Product Code (iPC) | Chassis Form Factor | Fans | Bezel | Power Supply Modules | Air Duct |
|--------------------------|---------------------|------------|----------------------|---|----------|
| P4304XXMFEN2 | 4U | 2 fixed | Fixed drive bezel | Yes (1 fixed 550 W) | Yes |
| P4304XXMUXX | 4U | 5 hot-swap | Hot-swap drive bezel | Opt (Supports up to 2 hot-swap 750 W or 1600 W) | Yes |

Note: Intel® Server Chassis P4304XXMFEN2 is discontinued as of July 1, 2018. See PCN 116128-01 for more details.

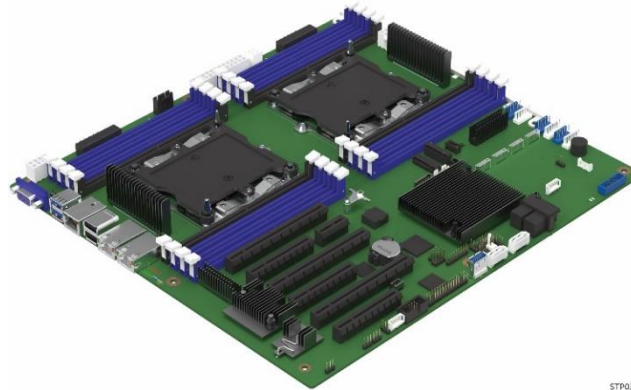
2. Server Building Block Options

Server building blocks are offered to provide the option of choosing from available Intel® server components to create a custom system configuration from the chassis up. Each building block component and optional accessory is purchased separately and assembled by a system integrator. At a minimum, a base functional server system using building blocks requires the following:

- Supported 4U Intel® Server Chassis P4000 product family option
- Intel® Server Board S2600ST product family option
- Hot-swap or fixed power supply module(s) – dependent on chassis
- Power cord(s)
- Processor
- Memory
- Storage devices
- Storage drive cables



Intel® Server Chassis P4000



Intel® Server Board S2600ST

Figure 6. Illustration of building block options

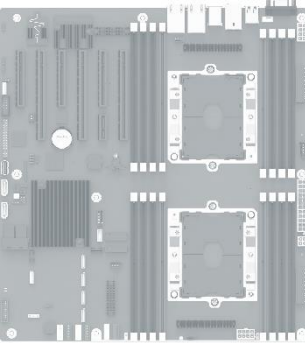
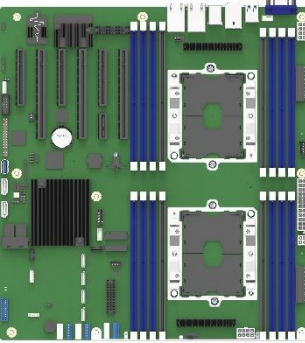
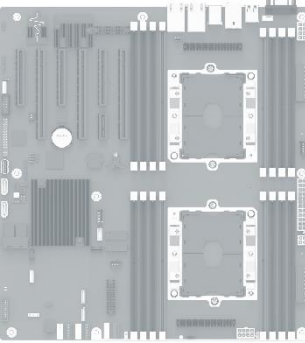
Optional Intel accessories that can be added include the following:

- Intel® SAS/SATA RAID support – PCIe* add-in card or module and appropriate SAS data cable(s)
- Intel® Virtual RAID On Chip (Intel® VROC) or Intel® Embedded Software RAID Technology 2 SATA RAID 5 NVMe* key options (configuration specific)
- Intel® Remote Management Module Lite key – to add advanced server management features

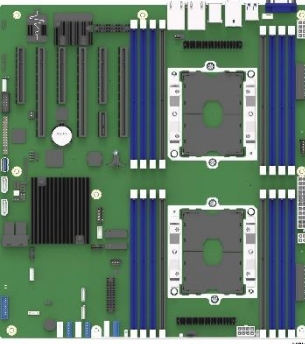
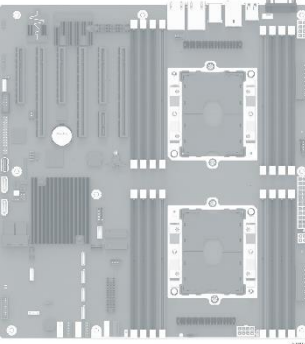
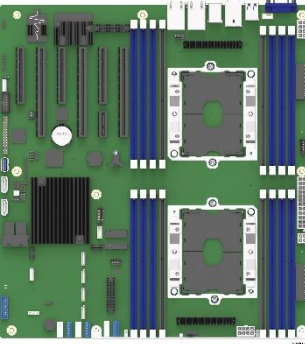
See Chapter 4 for all available options.

2.1 Intel® Server Board S2600ST Product Family Options

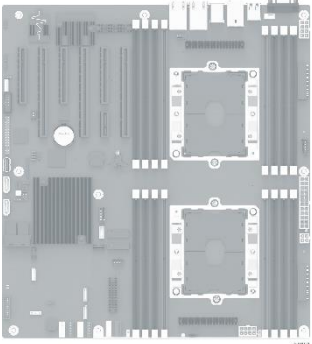
Table 7. Intel® Server Board S2600ST product family options

| Product Image | Details | Description |
|--|---|--|
|  | <p>Intel® Server Board S2600STB</p> <p>iPC S2600STB MM# 957180 UPC 00735858344647 EAN 5032037105354 MOQ 1</p> <p>Product type Server board only Building block/spare FRU</p> <p>Dimensions (SSI EEB) 12" x 13" Packaged gross wt. 2.4 kg (5.2 lb) Un-packaged net wt. 1.9 kg (4.2 lb)</p> | <ul style="list-style-type: none"> • (2) processor sockets compatible with 1st and 2nd Gen Intel® Xeon® Scalable processors • Intel® C624 chipset • Onboard dual-port RJ45 10 GbE LAN • (4) – onboard PCIe* NVMe* OcuLink connectors • (12) – SATA 6 Gbps ports <p>See Table 4 for the complete feature set.</p> <p>Note: All necessary mounting hardware, cabling, and shielding ship with the chassis and optional accessory kits.</p> |
|  | <p>Intel® Server Board S2600STBR</p> <p>iPC S2600STBR MM# 986246 UPC 00735858406758 EAN 5032037151016 MOQ 1</p> <p>Product type Server board only Building block/spare FRU</p> <p>Dimensions (SSI EEB) 12" x 13" Packaged gross wt. 2.4 kg (5.2 lb) Un-packaged net wt. 1.9 kg (4.2 lb)</p> | <ul style="list-style-type: none"> • (2) processor sockets compatible with 1st and 2nd Gen Intel® Xeon® Scalable processors • Intel® C624 chipset • Onboard dual-port RJ45 10 GbE LAN • (4) – onboard PCIe* NVMe* OcuLink connectors • (12) – SATA 6 Gbps ports <p>See Table 4 for the complete feature set.</p> <p>Note: All necessary mounting hardware, cabling, and shielding ship with the chassis and optional accessory kits.</p> |
|  | <p>Intel® Server Board S2600STQ</p> <p>iPC S2600STQ MM# 957318 UPC 00735858344661 EAN 5032037105378 MOQ 1</p> <p>Product type Server board only Building block/spare FRU</p> <p>Dimensions (SSI EEB) 12" x 13" Packaged gross wt. 2.4 kg (5.2 lb) Un-packaged net wt. 1.9 kg (4.2 lb)</p> | <ul style="list-style-type: none"> • (2) processor sockets compatible with 1st and 2nd Gen Intel® Xeon® Scalable processors • Intel® C628 chipset • Support for Intel® QuickAssist Technology (Intel® QAT) • Onboard dual-port RJ45 10 GbE LAN • (2) – onboard PCIe* NVMe* OcuLink connectors • (12) – SATA 6 Gbps ports <p>See Table 4 for the complete feature set.</p> <p>Note: All necessary mounting hardware, cabling, and shielding ship with the chassis and optional accessory kits.</p> |

Intel® Server S2600ST Product Family Configuration Guide

| Product Image | Details | Description |
|---|--|--|
|  | <p>Intel® Server Board S2600STQR</p> <p>iPC S2600STQR MM# 986307 UPC 00735858406789 EAN 5032037151047 MOQ 1</p> <p>Product type Server board only Building block/spare FRU</p> <p>Dimensions (SSI EEB) 12" x 13" Packaged gross wt. 2.4 kg (5.2 lb) Un-packaged net wt. 1.9 kg (4.2 lb)</p> | <ul style="list-style-type: none"> • (2) processor sockets compatible with 1st and 2nd Gen Intel® Xeon® Scalable processors • Intel® C628 chipset • Support for Intel® QuickAssist Technology (Intel® QAT) • Onboard dual-port RJ45 10 GbE LAN • (2) – onboard PCIe* NVMe* OCuLink connectors • (12) – SATA 6 Gbps ports <p>See Table 4 for the complete feature set.</p> <p>Note: All necessary mounting hardware, cabling, and shielding ship with the chassis and optional accessory kits.</p> |
|  | <p>Intel® Server Board S2600STB (Base Bulk Pack)</p> <p>iPC BBS2600STB MM# 959820 UPC 00735858344678 EAN 5032037105385 MOQ 10</p> <p>Product type Server board only Building block/spare FRU</p> <p>Dimensions (SSI EEB) 12" x 13" Packaged gross wt. 21.8 kg (47.9 lb) Un-packaged net wt. 19.8 kg (43.6 lb)</p> | <ul style="list-style-type: none"> • (2) processor sockets compatible with 1st and 2nd Gen Intel® Xeon® Scalable processors • Intel® C624 chipset • Onboard dual-port RJ45 10 GbE LAN • (4) – onboard PCIe* NVMe* OCuLink connectors • (12) – SATA 6 Gbps ports <p>See Table 4 for the complete feature set.</p> <p>Note: All necessary mounting hardware, cabling, and shielding ship with the chassis and optional accessory kits.</p> |
|  | <p>Intel® Server Board S2600STBR (Base Bulk Pack)</p> <p>iPC BBS2600STBR MM# 986308 UPC 00735858406765 EAN 5032037151023 MOQ 10</p> <p>Product type Server board only Building block/spare FRU</p> <p>Dimensions (SSI EEB) 12" x 13" Packaged gross wt. 21.8 kg (47.9 lb) Un-packaged net wt. 19.8 kg (43.6 lb)</p> | <ul style="list-style-type: none"> • (2) processor sockets compatible with 1st and 2nd Gen Intel® Xeon® Scalable processors • Intel® C624 chipset • Onboard dual-port RJ45 10 GbE LAN • (4) – onboard PCIe* NVMe* OCuLink connectors • (12) – SATA 6 Gbps ports <p>See Table 4 for the complete feature set.</p> <p>Note: All necessary mounting hardware, cabling, and shielding ship with the chassis and optional accessory kits.</p> |

Intel® Server S2600ST Product Family Configuration Guide

| Product Image | Details | Description |
|--|--|--|
|  | <p>Intel® Server Board S2600STQ (Base Bulk Pack)</p> <p>iPC BBS2600STQ MM# 959727 UPC 00735858344685 EAN 5032037105392 MOQ 10</p> <p>Product type Server board only Building block/spare FRU</p> <p>Dimensions (SSI EEB) 12" x 13" Packaged gross wt. 21.8 kg (47.9 lb) Un-packaged net wt. 19.8 kg (43.6 lb)</p> | <ul style="list-style-type: none"> • (2) processor sockets compatible with 1st and 2nd Gen Intel® Xeon® Scalable processors • Intel® C628 chipset • Support for Intel® QuickAssist Technology (Intel® QAT) • Onboard dual-port RJ45 10 GbE LAN • (2) – onboard PCIe* NVMe* OCuLink connectors • (12) – SATA 6 Gbps ports <p>See Table 4 for the complete feature set.</p> <p>Note: All necessary mounting hardware, cabling, and shielding ship with the chassis and optional accessory kits.</p> |

2.2 Intel® Server Chassis Product Family Options

The product tables found in this section provide order code information and detailed descriptions for each available Intel server chassis building block option. The lower sections of each table identify:

- **Included** – The ship along components of the specified chassis product code (product BOM).
- **Required items** – Hardware required to be installed to the base system to achieve basic functionality using the default system feature set. Required items are sold separately.
- **Optional accessories** – Some of the available accessories that can be installed to enhance the basic feature set of the server board/chassis. Optional accessories are sold separately. Additional accessories can be found in Chapter 4.

Note: Items identified with an iPC (Intel Product Code) are orderable building block options, accessories, or spare FRUs. In an effort to provide the complete product bill of materials, the ship along components list in each product table include items identified by description and by iPN (Intel Part Number). The iPN information is provided for reference only. These components are not orderable as spares or accessories.

Table 8. Intel® Server Chassis P4304XXMFEN2 product specifications and configuration requirements



| Intel® Server Chassis P4304XXMFEN2 | | | | | | | | | | | | | | |
|--|---|---|---------------------|--------------|----------------------------|------------------------------------|---------------------------|-------------------|----------------------------|-------------------|---------------------------|--------------------------------|---------------------------|--------------------------------|
|  | <p>Note: This product is discontinued as of July 1, 2018. See PCN 116128-01 for more details.</p> | <table border="0"> <tr> <td>Product type</td> <td>Chassis only</td> </tr> <tr> <td>Chassis form factor</td> <td>4U pedestal mount (rack mountable)</td> </tr> <tr> <td>Packaged gross wt.</td> <td>21.8 kg (48.1 lb)</td> </tr> <tr> <td>Un-packaged net wt.</td> <td>16.0 kg (35.2 lb)</td> </tr> <tr> <td>Chassis dimensions</td> <td>612 x 173 x 438 mm (L x W x H)</td> </tr> <tr> <td>Package dimensions</td> <td>813 x 348 x 577 mm (L x W x H)</td> </tr> </table> | Product type | Chassis only | Chassis form factor | 4U pedestal mount (rack mountable) | Packaged gross wt. | 21.8 kg (48.1 lb) | Un-packaged net wt. | 16.0 kg (35.2 lb) | Chassis dimensions | 612 x 173 x 438 mm (L x W x H) | Package dimensions | 813 x 348 x 577 mm (L x W x H) |
| Product type | Chassis only | | | | | | | | | | | | | |
| Chassis form factor | 4U pedestal mount (rack mountable) | | | | | | | | | | | | | |
| Packaged gross wt. | 21.8 kg (48.1 lb) | | | | | | | | | | | | | |
| Un-packaged net wt. | 16.0 kg (35.2 lb) | | | | | | | | | | | | | |
| Chassis dimensions | 612 x 173 x 438 mm (L x W x H) | | | | | | | | | | | | | |
| Package dimensions | 813 x 348 x 577 mm (L x W x H) | | | | | | | | | | | | | |
| Included | Required Items (sold separately) | Optional Accessories (sold separately) | | | | | | | | | | | | |
| <ul style="list-style-type: none"> (1) – 4U pedestal chassis (1) – Standard control panel – iPC FXXFPANEL (1) – Fixed 550 W power supply unit – iPC FUP550SNRPS (4) – Fixed 3.5"/2.5" drive sleds – iPC FUP4X35NHDK (1) – Fixed 120 mm system fan – iPC FUPNHFANCPU (1) – Fixed 120 mm system fan – iPC FUPMNHFANPCI (1) – Processor/memory aid duct – iPC A4UCWDUCT (1) – Fixed bezel – iPC FUPBEZELFIX2 (1) – Attention document (1) – Dual power connector cable – iPN G22872-00x (1) – Mini-SAS HD to 4-port SATA 7-pin cable – iPC AXXCBL450HD7S (1) – Chassis plastic foot – iPN G35111-00x (1) – Set of standoffs for motherboard – iPN G35101-00x (1) – Bumper pad for motherboard – iPN G35112-00x (1) – Set of 5 mm screws for motherboard – iPN G35096 | <ul style="list-style-type: none"> • Intel® Server Board S2600ST (choose one) <ul style="list-style-type: none"> ○ iPC S2600STB ○ iPC S2600STQ • Power cord(s) • (1) or (2) Intel® Xeon® processor Scalable family • (1) or (2) heatsinks appropriate for Intel Xeon processor installation • ECC DDR4 memory (RDIMM or LRDIMM) • SATA and/or OCuLink cables | <ul style="list-style-type: none"> • Hot-swap drive bay kit • Intel® RAID Card • Rack mount conversion kit • Lockable front bezel for hot-swap drive configurations – iPC FUPBEZELHSD2 • Intel® Remote Management Module 4 Lite for advanced management features – iPC AXXRMM4LITE2 • Storage drives <p>See Chapters 4 and 5 for all available accessory options.</p> | | | | | | | | | | | | |

Table 9. Intel® Server Chassis P4304XXMUXX product specifications and configuration requirements

| Intel® Server Chassis P4304XXMUXX | | | |
|---|---|---|--|
|  | <p>iPC P4304XXMUXX MM# 937011 UPC 00735858289962 EAN 5032037068802 MOQ 1</p> | <p>Product type Chassis only Chassis form factor 4U rack mount Packaged gross wt. 23.8 kg (52.4 lb) Un-packaged net wt. 15.5 kg (34.2 lb) Chassis dimensions 612 x 173 x 438 mm (L x W x H) Package dimensions 813 x 348 x 577 mm (L x W x H)</p> | |
| Included | Required Items (sold separately) | Optional Accessories (sold separately) | |
| <ul style="list-style-type: none"> (1) – 4U rack mount chassis (1) – Standard control panel – iPC FXXFPANEL (1) – Power distribution board – iPC FUPPDBHC2 (1) – Power supply bay – iPC FUPCRPSCAGE (5) – Redundant/hot-swap 80 mm system fans - iPC FUPMLHSFAN (4) – Fixed 3.5"/2.5" drive sleds – iPC FUP4X35NHDK (1) – Processor/memory aid duct – iPC A4UCWDUCT (1) – Hot swap bezel with lock – iPC FUPBEZELHSD2 (1) – Fixed EMI cover (1) – Attention document (1) – Dual power connector cable – iPN G22872-00x (1) – Mini-SAS HD to 4-port SATA 7-pin cable – iPC AXXCBL450HD7S (1) – Chassis plastic foot – iPN G35111-00x (1) – Set of standoffs for motherboard – iPN G35101-00x (1) – Bumper pad for motherboard – iPN G35112-00x (1) – Set of 5 mm screws for motherboard – iPN G35096 | <ul style="list-style-type: none"> • Intel® Server Board S2600ST (choose one) <ul style="list-style-type: none"> ○ iPC S2600STB(R) ○ iPC S2600STQ(R) • Power supply – see Section 4.4 for options • Power cord(s) • (1) or (2) 1st or 2nd Gen Intel® Xeon® processor Scalable family – see Section 1.1.1 for details on processor support • (1) or (2) heatsinks appropriate for Intel Xeon processor installation – see Chapter 5 for options • ECC DDR4 memory (RDIMM or LRDIMM) • SATA and/or OCuLink cables | <ul style="list-style-type: none"> • Hot-swap drive bay kit – see Section 4.1 for options • Intel® RAID Card – see Section 4.3 for options • OCuLink data cable (depending on the location of the OCuLink connector, a new data cable may be necessary)– see Chapter 3 for details • Intel® Remote Management Module 4 Lite for advanced management features – iPC AXXRMM4LITE2 • Storage drives <p>See Chapters 4 and 5 for all available accessory options.</p> | |

3. SAS/SATA/OCuLink Data Cable Guide

By default, the chassis includes one mini-SAS HD to 4-port SATA 7-pin cable (iPC **AXXCBL450HD7S**) that can be routed from the server board to each of four storage drives.

Mini-SAS HD (SFF-8643) and/or OCUlink data cables (ordered separately) are required when adding one of the following:

- SAS expander module – iPC **RES3TV360**
- SAS expander PCIe* add-in card – iPC **RES3FV288**
- SAS RAID PCIe add-in card
- Hot-swap backplane accessory option

3.1 Cable Connector Types

Table 10. Single-port SATA cable connector

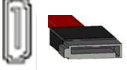
| Image | Description |
|---|---|
|  | <p>7-pin Single Port SATA Support for up to 6 Gb/sec SATA devices Where used:</p> <ul style="list-style-type: none"> • On the server board • SATA optical drive (CD/DVD) • SATA DOM |

Table 11. Multiport mini-SAS HD cable connectors



| Image | Description |
|---|--|
|  | <p>Mini-SAS (SFF-8643) Support for up to 12 Gb/sec SAS and 6 Gb/sec SATA devices Where used:</p> <ul style="list-style-type: none"> • 12 Gb/sec 4x3.5" hot-swap backplane – iPC FUP4X35S3HSBP • 12 Gb/sec 8x2.5" hot-swap backplane – iPC FXX8X25S3HSBP • All 12 Gb/sec SAS RAID Controllers • All 12 Gb/sec SAS expander cards |

Table 12. PCIe* OCuLink cable connectors






| Image | Description |
|---|--|
|  | <p>OCuLink 42-pin connector Support for PCIe* NVMe* SFF (2.5") SSDs Where used:</p> <ul style="list-style-type: none"> • On the server board – 2 or 4 connectors (depending on the board model) • All backplanes that include support for NVMe SFF SSDs • NVMe switch card • Tri-mode RAID card |

3.2 SAS/SATA/OCuLink Cable Kits

Product tables in this section reference specific SAS/SATA and OCuLink cables. Different cable kits are offered to support specific system configurations. The product order code for each cable kit is made up of a string of letters and numbers to identify the type of cable included in the kit.

The following table identifies the different data cable connector types and the identifiers used in the cable kit product codes.

Table 13. Data cable connector identification

| Connector Image | Cable Code | Description |
|---|------------|--|
|  | HD | Straight SFF-8643 mini SAS HD connector |
|  | 7S | Straight 7-pin single-port SATA (support for up to 6 Gb/sec SATA devices) |
|  | 7R | Right-angle 7-pin single-port SATA (support for up to 6 Gb/sec SATA devices) |
|  | CV | Straight NVMe* OCuLink SFF-8611 connector |
|  | CR | Right-angle NVMe* OCuLink SFF-8611 connector |

3.2.1 Cable Kit Product Code Decoder Examples





SAS/SATA Data Cable Example – iPC **AXXCBL450HD7S**

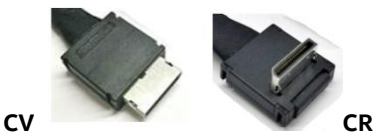

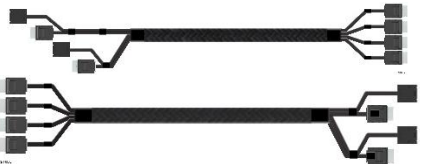

- AXXCBL – Identifies an accessory cable kit
- 450 – Identifies the length of the cable in mm
- HD – Identifies that one end of the cable is an SFF-8643 type connector
- 7S – Identifies that one end of the cable is a 7-pin single-port SATA type connector

3.2.2 Cable Kit Order Information

Note: The minimum order quantity (MOQ) refers to the cable kit. The kit contents may include one or more cables as listed in the product description.

Table 14. Storage data cable kit description and order information

| Image | Details | Description |
|---|--|--|
|  | iPC AXXCBL380HDHD MM# 936427 UPC 00735858284738 EAN 5032037065023 MOQ 1 | 380 mm long, cable kit (2 cables included), straight SFF8643 to straight SFF8643 Used to connect hot-swap drive bays to mainboard SATA ports |
|  | iPC AXXCBL650HDHD MM# 937129 UPC 00735858284752 EAN 5032037065047 MOQ 1 | 650 mm long, cable kit (2 cables included), straight SFF8643 to straight SFF8643 Used to connect 12 Gb/s SAS cards (with SFF8643 connectors) to backplanes |
|  | iPC AXXCBL450HD7S MM# 936428 UPC 00735858287388 EAN 5032037067126 MOQ 1 | 450 mm long, cable kit (2 cables included), straight SFF8643 to 7-pin SATA Used to connect fixed SATA drives to mainboard SATA ports. Spare for cables shipped with chassis. |
|  | iPC AXXCBL900HD7R MM# 937316 UPC 00735858286640 EAN 5032037066549 MOQ 1 | 730 mm long, cable kit (2 cables included), straight SFF8643 to right-angle 7-pin SATA Used to connect fixed SATA drives to mainboard SATA ports. Spare for cables shipped with chassis. |

| Image | Details | Description |
|---|---|---|
|  | <p>iPC AXXCBL450CVCR MM# 960254 UPC 00735858347075 EAN 5032037106986 MOQ 1</p> | <p>450 mm long, accessory cable kit (1 cable included), straight OCUlink SFF-8611 connector to right-angle OCUlink SFF-8611 connector</p> <p>Used to connect switch add-in cards to HSBP PCIe* SSD ports (SSD ports depend on installed location of the switch add-in card).</p> |
|  | <p>iPC AXXCBL625CVCX MM# 960191 UPC 00735858347082 EAN 5032037106993 MOQ 1</p> | <p>625 mm long, 4-port switch accessory cable kit (1 cable included), straight OCUlink SFF-8611 to straight/right-angle OCUlink SFF-8611</p> <p>Used to connect switch add-in cards to HSBP PCIe* SSD ports (SSD ports depend on installed location of the switch add-in card).</p> |
|  | <p>iPC A2U8PSWCXCXK1 MM# 958268 UPC 00735858346245 EAN 5032037106528 MOQ 1</p> | <p>725 mm long, 8-port switch accessory cable kit (2 cables included), straight OCUlink SFF-8611 to straight/right-angle OCUlink SFF-8611</p> <p>Used to connect switch add-in cards to HSPB PCIe* SSD ports (SSD ports depend on installed location of the switch add-in card).</p> |
|  | <p>iPC A2U4PRTCXCXK MM# 958264 UPC 00735858346214 EAN 5032037106498 MOQ 1</p> | <p>815 mm long, straight OCUlink SFF-8611 connectors to straight OCUlink SFF-8611 connectors to connect AXXP3RTX16040 4-Port PCIe SSD Retimer AIC to a PCIe SSD capable HSBP SSD ports (1 cable kit required per retimer installed)</p> |

3.2.3 Cable Recommendations

Each table in the following sections describes the cable connections and lists recommended cable lengths for each supported storage controller option in the specified system. Each recommended cable length for a given connector pair provides enough cable to attach the two devices with the least amount of excess cable, resulting in the cleanest cable routing.

Note: Drive numbering in the system illustrations is for general reference only. Actual drive numbering is dependant on the installed storage controller's configuration and its connection to the backplane. Each installed backplane includes a multi-port data connector for each for drive group.

3.3 Fixed-Mount Drive SAS/SATA Data Cable Guide

One mini-SAS HD cable (iPC **AXXCBL450HD7S**) is included with the Intel® server chassis. Additional cables may be ordered separately as required.

By default, the Intel server chassis has support for four fixed-mount drives. To support eight 2.5"/3.5" fixed drive configurations, an additional set of drive trays (iPC **FUP4X35NHDK**) must be ordered separately.

Table 15. Data cable guide for fixed-mount drive configurations

| Drive Support | Onboard SATA-Capable Controller to Storage Drive | 12 Gb SAS RAID PCIe* Add-In Card to Storage Drive |
|----------------------------------|--|--|
| Fixed 4 x 3.5" Fixed 4 x 2.5" | Onboard SATA → Drive 450 mm HD --- 7S (1) – AXXCBL450HD7S cable (shipped with server chassis) | SAS Add-In Card → Drive 900 mm HD --- 7R (1) – AXXCBL900HD7R cable (order separately) |
| Fixed 8 x 3.5" Fixed 8 x 2.5" | Onboard SATA → Drive Onboard sSATA → Drive 450 mm HD --- 7S (2) – AXXCBL450HD7S cables (1 cable shipped with server chassis) Required (order separately): (1) – AXXCBL450HD7S cable (kit includes 2 cables) (2) – FXXSTPWRAP power adapter cable kit (2 drives supported per kit) | SAS Add-In Card → Drive 900 mm HD --- 7R (2) – AXXCBL900HD7R cables Required (order separately): (2) – AXXCBL900HD7R cables (kit includes 2 cables) (2) – FXXSTPWRAP power adapter cable kit (2 drives supported per kit) |

3.4 4 x 3.5" Hot-Swap SAS/SATA Data Cable Guide

The 4 x 3.5" hot-swap drive configuration is an upgrade option that requires the following accessory kits (ordered separately):

- Hot-swap drive bay kit – iPC **AUP4X35S3HSDK**
- Mini-SAS HD cable kit – iPC **AXXCBL380HDHD** or **AXXCBL650HDHD**



Figure 24. 4 x 3.5" hot-swap drive configuration (SATA/SAS 0-4)

Table 16. Data cable guide for 4 x 3.5" drive configuration

| Drive Support | Onboard SATA Controller to Backplane | 12 Gb SAS RAID PCIe* Add-In Card to Backplane |
|-------------------|--|---|
| Hot-swap 4 x 3.5" | Onboard SATA → Backplane 380 mm HD --- HD (1) – AXXCBL380HDHD cable (2 shipped with cable kit) | SAS add-in card → Backplane 650 mm HD --- HD (1) – AXXCBL650HDHD cable (2 shipped with cable kit) |

3.5 8 x 3.5" Hot-Swap SAS/SATA Data Cable Guide

The 8 x 3.5" hot-swap drive configuration is an upgrade option that requires the following accessory kits (ordered separately):

- Hot-swap drive bay kit – iPC **AUP4X35S3HSDK**
- Mini-SAS HD cable kit – iPC **AXXCBL380HDHD** or **AXXCBL650HDHD**



Figure 24. 8 x 3.5" hot-swap drive configuration (SATA/SAS 0-7)

Table 17. Data cable guide for 8 x 3.5" drive configuration

| Drive Support | Onboard SATA Controller to Backplane | 12 Gb SAS RAID PCIe* Add-In Card to Backplane |
|--|--|---|
| Hot-swap 4 x 3.5" Cabling the same for top and bottom bay | Onboard SATA → Backplane 380 mm HD --- HD (2) – AXXCBL380HDHD cable (2 shipped with cable kit) | SAS add-in card → Backplane 650 mm HD --- HD (1) – AXXCBL650HDHD cable (2 shipped with cable kit) |

3.6 8 x 2.5" Hot-Swap SAS/SATA/NVMe* Data Cable Guide

The 8 x 2.5" hot-swap drive configuration is an upgrade option that requires the following accessory kits (ordered separately):

- Hot-swap combo drive bay kit – iPC **AUP8X25S3NVDK**
- Server board to HSBP OCuLink cable kit – iPC **AXXCBL450CVCR**
- 4-port switch OCuLink cable kit – iPC **AXXCBL625CVCX**

The backside (cable connector side) of the standard 8 x 2.5" combo backplane (iPC **AUP8X25S3NVDK**, included in hot-swap combo drive bay kit **AUP8X25S3NVDK**) includes two 4-port 8643 mini-SAS HD data connectors (ports 0-3 and ports 4-7) for SAS/SATA support, and eight PCIe* OCuLink connectors for NVMe* support (one connector for each PCIe NVMe SFF drive). Each OCuLink connector is labeled with a drive ID (0-7) which corresponds to a matching drive interface connector on the front side (drive interface side) of the backplane.

Note: Up to four NVMe drives are supported on Intel® Server Chassis P4304XXMFEN2 and P4304XXMUXX.



Figure 24. 8 x 2.5" hot-swap drive configuration (SATA/SAS 0-7)

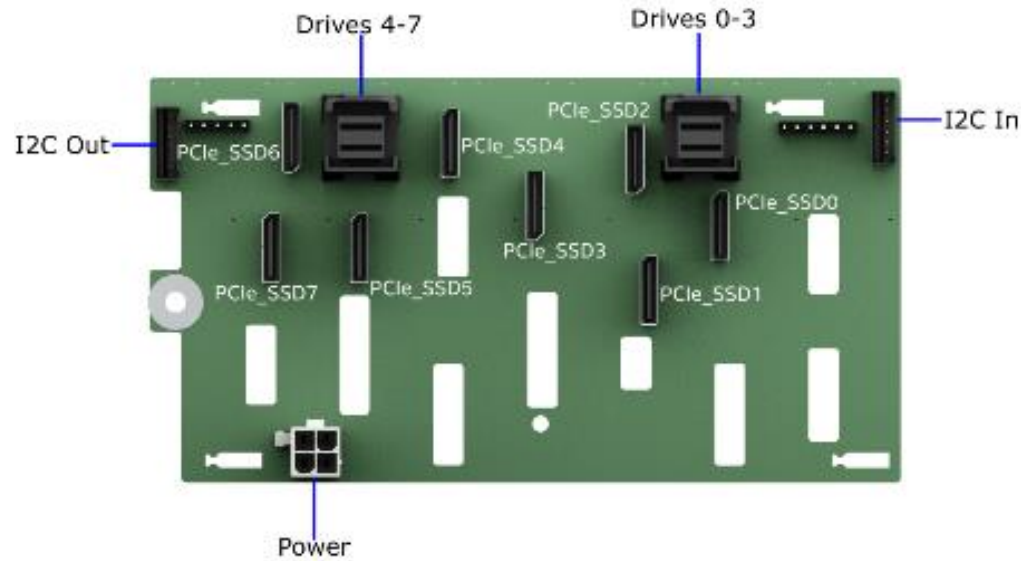


Figure 7. 8 x 2.5" combo backplane (iPC AUP8X25S3NVDK)

Table 18. Data cable guide for 8 x 2.5" combo drive configuration

| Drive Support | Onboard SATA Controller to Backplane | 12 Gb SAS RAID PCIe* Add-In Card to Backplane | Onboard SAS/SATA/PCIe* OCuLink to Backplane | PCIe* NVMe* Add-In Card to Backplane OCuLink |
|---|---|--|---|--|
| Hot-swap 8 x 2.5" combo SAS/SATA/PCIe* SSD SFF (NVMe*) 12 Gb SAS capable | Onboard SATA → Backplane 380 mm HD --- HD (2) – AXXCBL380HDHD cable (2 shipped with cable kit) | SAS Add-In Card → Backplane 650 mm HD --- HD (1) – AXXCBL650HDHD cable (2 shipped with cable kit) | Onboard PCIe SSD 1 → Backplane 0 Onboard PCIe SSD 2 → Backplane 1 Onboard PCIe SSD 3 → Backplane 2 Onboard PCIe SSD 4 → Backplane 3 450 mm CV --- CR (1) – AXXCBL450CVCR cable Onboard SATA → Backplane 4-7 380 mm HD --- HD (1) – AXXCBL380HDHD cable | Add-in card → Backplane 0-3 625 mm CV --- CX (1) – AXXCBL625CVCX cable |

3.7 8 x 2.5" Dual-Port Hot-Swap SAS Data Cable Guide

The 8 x 2.5" dual-port hot-swap drive configuration is an upgrade option that requires the following accessory kits (ordered separately):

- Hot-swap drive bay kit – iPC **AUP8X25S3DPDK**
- Mini-SAS HD cable kit – iPC **AXXCBL380HDHD** or **AXXCBL650HDHD**



Figure 24. 8 x 2.5" hot-swap drive configuration (SATA/SAS 0-7)

Table 19. Data cable guide for 8 x 2.5" drive configuration

| Drive Support | Onboard SATA Controller to Backplane | 12 Gb SAS RAID PCIe* Add-In Card to Backplane |
|-------------------|--------------------------------------|---|
| Hot-swap 8 x 2.5" | N/A | SAS add-in card → Backplane 650 mm HD --- HD (1) – AXXCBL650HDHD cable (2 shipped with cable kit) |

3.8 16 x 2.5" Hot-Swap SAS/SATA Data Cable Guide

The 16 x 2.5" hot-swap drive configuration is an upgrade option that requires the following accessory kits (ordered separately):

- Two hot-swap drive bay kits (it is suggested that both be the same type)
 - Dual-port hot-swap drive bay kit – iPC **AUP8X25S3DPDK**
 - Combo hot-swap drive bay kit – iPC **AUP8X25S3NVDK**
- Mini-SAS HD cable kit – iPC **AXXCBL380HDHD** or **AXXCBL650HDHD**

Note: NVMe* drives are not supported in 16 x 2.5" configurations on Intel® Server Chassis P4304XXMFEN2 and P4304XXMUXX.



STP091

Figure 24. 16 x 2.5" hot-swap drive configuration (SATA/SAS 0-15)

3.8.1 16 x 2.5" Dual-Port Hot-Swap SAS Cable Guide

Note: For the 16 x 2.5" dual-port hot-swap drive configuration, a second processor must be installed if more than two PCIe* RAID add-in cards are installed on the server board.

Table 20. Data cable guide for 16 x 2.5" drive configuration

| Drive Support | Onboard SATA Controller to Backplane | 12 Gb SAS RAID PCIe* Add-In Card to Backplane |
|--|--------------------------------------|---|
| Hot-swap 8 x 2.5" Cabling options are the same for top and bottom bay | N/A | SAS add-in card → Backplane 650 mm HD --- HD (1) – AXXCBL650HDHD cable (2 shipped with cable kit) |

3.8.2 16 x 2.5" Combo Hot-Swap SAS/SATA Data Cable Guide (without SAS expander)

Table 21. Data cable guide for 16 x 2.5" combo hot-swap drive (no SAS expander) configuration

| Drive Support | Onboard SATA Controller to Backplane + 12 Gb SAS RAID PCIe* Add-In Card to Backplate | 12 Gb SAS RAID PCIe* Add-In Card to Backplane |
|--|---|---|
| Hot-swap 8 x 2.5" combo SAS/SATA/PCIe* SSD SFF (NVMe*) Cabling options are the same for top and bottom bay | Onboard SATA → Backplane 380 mm HD --- HD (2) – AXXCBL380HDHD cable (2 shipped with cable kit) SAS add-in card → Backplane 650 mm HD --- HD (2) – AXXCBL650HDHD cable (2 shipped with cable kit) | SAS add-in card → Backplane 650 mm HD --- HD (4) – AXXCBL650HDHD cable (2 shipped with cable kit) |

3.8.3 16 x 2.5" Hot-Swap SAS/SATA Data Cable Guide (with SAS expander)

Drive configurations consisting of more than eight drives may require the addition of an SAS expander card. In a 16 x 2.5" system configuration, the SAS expander **RES3FV288** must be installed in any available PCIe add-in slot or, when using SAS expander **RES3TV360**, must be installed in the chassis between the system fans and the backplane of the storage drive bays. Table 22 lists the features of both expanders.

Note: The onboard SATA ports are not compatible with SAS expander cards. The onboard SATA ports can be cabled directly to a specified backplane or drive only.

Table 22. SAS expander options



| Image | Details | Description |
|--|---|--|
|  | <p>SAS 3.0 12 Gb/s Expander</p> <p>iPC RES3FV288 MM# 932895 UPC 00735858287548 EAN 5032037067287 MOQ 5</p> <p>Product type Accessory kit</p> | <ul style="list-style-type: none"> 6Gbps data aggregation for 12Gbps data transfer with 6Gb/s devices Low Profile MD2 PCIe* add-in card form factor 28 internal ports and 8 external ports Redundant dual-port capable for HA and high performance systems Power from PCIe x1 Mini-SAS HD 8643 connectors <p>Kit includes: (1) SAS expander card; (2) HD-HD 250 mm expander to RAID card cables; PCI brackets for low-profile and full-height</p> <p>Required (sold separately): HD-HD expander to backplane cables (see Table 23)</p> |
|  | <p>SAS 2.0 12 Gb/s Expander</p> <p>iPC RES3TV360 MM# 932894 UPC 00735858287364 EAN 5032037067102 MOQ 5</p> <p>Product type Accessory kit</p> | <ul style="list-style-type: none"> 36-port, 12 Gbps capable expander card <p>Kit includes: (1) SAS expander card; (6) cables to connect to 24 ports on nearby drive backplane</p> <p>Required (sold separately): HD-HD expander to RAID card cables (see Table 23)</p> |

Table 23. Data cable guide for 16 x 2.5" hot-swap drive (with SAS expander) configuration

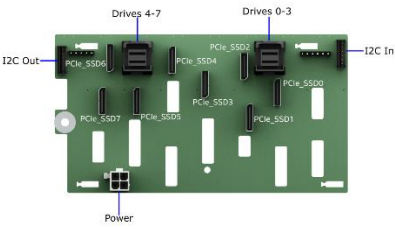
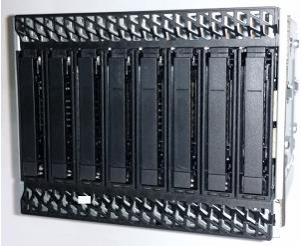
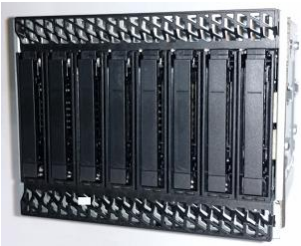
| Drive Support | Onboard SATA Controller to Backplane | 12 Gb SAS RAID PCIe* Add-In Card to Backplane (with SAS Expander RES3FV288) | 12 Gb SAS RAID PCIe* Add-In Card to Backplane (with SAS Expander RES3TV360) |
|---|--------------------------------------|---|--|
| Hot-swap 8 x 2.5" combo SAS/SATA/PCIe* SSD SFF (NVMe*) Cabling options are the same for top and bottom bay | N/A | <ul style="list-style-type: none"> Use cables in expander kit to attach PCIe SAS card to expander card To connect the expander card to the backplane, use two AXXCBL650HDHD cables per drive bay (ordered separately; cable kit includes two cables) | <ul style="list-style-type: none"> Use cables in expander kit to attach expander card to backplane To connect the PCIe SAS card to the expander card, use cable AXXCBL380HDHD (ordered separately; cable kit includes two cables) |


4. Accessory Options

The following sections identify available accessory kits supported within the Intel® Server S2600ST product family.

4.1 SAS/SATA/NVMe* Backplanes and Drive Bay Kits

Table 24. SAS/SATA/NVMe* backplane and drive bay kit options


| Image | Details | Description |
|---|--|---|
|  | <p>8 x 2.5" Hot-Swap PCIe* NVMe* SFF Combo Backplane</p> <p>iPC F2U8X25S3PHS MM# 955870 UPC 00735858344913 EAN 5032037105620 MOQ 1</p> <p>Product type Accessory kit</p> | <p>Combination hot-swap backplane board supporting SAS, SATA, and PCIe NVMe SFF storage drives. For use with Intel® Server Chassis P4000 product family.</p> <p>Includes: (1) backplane board</p> |
|  | <p>8 x 2.5" Hot-Swap PCIe* NVMe* SFF Combo Drive Bay Kit</p> <p>iPC AUP8X25S3NVDK MM# 953393 UPC 00735858346641 EAN 5032037106702 MOQ 1</p> <p>Product type Accessory kit</p> | <p>Includes:</p> <ul style="list-style-type: none"> (1) – drive bay (1) – hot-swap combo backplane – iPC F2U8X25S3PHS (8) – 2.5" hot-swap tool-less drive carriers – iPC FXX25HSCAR3 (3) – I2C cables (1) – power adapter cable accessory (1) – EMI cover <p>Note: Limited feature substitute available (iPC FUP8X25S3HSDK). See Table 34 for details.</p> |
|  | <p>8 x 2.5" Dual-Port Hot-Swap SAS Drive Bay Kit</p> <p>iPC AUP8X25S3DPDK MM# 953392 UPC 00735858345200 EAN 5032037105781 MOQ 1</p> <p>Product type Accessory kit</p> | <p>Includes:</p> <ul style="list-style-type: none"> (1) – drive bay (1) – dual-port hot-swap backplane (8) – 2.5" hot-swap tool-less drive carriers – iPC FXX25HSCAR3 (2) – I2C cables (1) – power adapter cable accessory (1) – EMI cover |

| Image | Details | Description |
|---|--|--|
|  | <p>4 x 3.5" Hot-Swap Drive Bay Kit</p> <p>iPC AUP4X35S3HSDK MM# 959879 UPC 00735858348614 EAN 5032037107631 MOQ 1</p> <p>Product type Accessory kit</p> | <p>Includes:</p> <ul style="list-style-type: none"> (1) – drive bay (1) – hot-swap backplane (4) – 3.5" hot-swap tool-less drive carriers – iPC FXX35HSCAR2 (2) – I2C cables (1) – EMI cover <p>Note: Limited feature substitute available (iPC FUP4X35S3HSDK). See Table 34 for details.</p> |

4.2 Locking Front Bezel Accessory

The front bezel is made of black molded plastic and uses a snap-on design. When installed, it allows for maximum airflow to maintain system cooling requirements. The front bezel includes a keyed locking mechanism which can be used to prevent unauthorized access to installed storage devices and front I/O ports.

Table 25. Front bezel accessory option

| Image | Details | Description |
|--|---|--|
|  | <p>Locking Front Bezel</p> <p>iPC FUPBEZELHSD2 MM# 925749 UPC 00735858254656 EAN 5032037035880 MOQ 1</p> <p>Product type Accessory kit Spare FRU</p> | <p>Spare locking front bezel for Intel® Chassis P4304XXMUXX</p> <p>Includes: (1) bezel with door; lock and keys</p> |

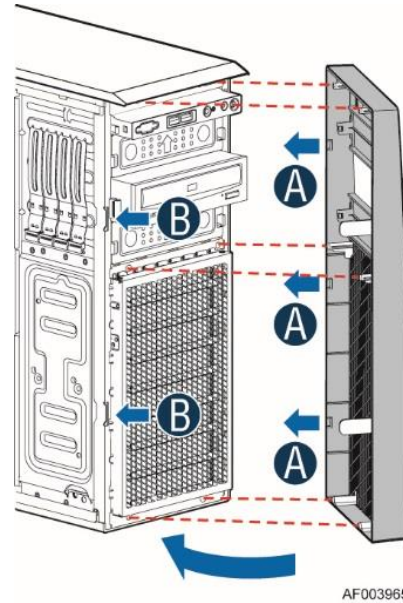



Figure 8. Installing the front bezel on the chassis





For complete installation information, refer to *Intel® Server Chassis P4304XXMFEN2/P4304XXMUXX Product Family Service Guide*.

4.3 Intel® RAID Add-In Cards, Expanders, and Accessories





Table 26. Intel® RAID controller add-in cards – SAS 3.0 (12 Gb/s)

| Image | Details | Description |
|---|---|---|
|  | <p>Intel® RAID Controller RS3DC080</p> <p>iPC RS3DC080 MM# 934643 UPC 00735858265355 EAN 5032037107174 MOQ 5</p> <p>Product type Accessory kit</p> | <p>Low Profile, half length, (MD2 Compliant) PCIe* add-in card 8 internal SAS/SATA ports LSI* SAS3108 ROC RAID Levels – 0, 1, 5, 6, 10, 50, and 60 Embedded 1GB DDR3 Cache Memory Supports Maintenance Free Backup Unit – iPC AXXRMFBU4 Supports the following Intel® RAID Accessory Options:</p> <ul style="list-style-type: none"> • Intel® RAID High Availability Activation Key – iPC AXXRPFKHA2 • Intel® RAID SSD Cache with Fast Path I/O – iPC AXXRPFKSSD2 • Intel® RAID Drive Encryption Management – iPC AXXRPFKDE2 • Intel® RAID Rapid Recovery Snapshot – iPC AXXRPFKSNH2 <p>SAS data cables not included and must be purchased separately.</p> |

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| Image | Details | Description |
|---|---|---|
|  | <p>Intel® RAID Controller RS3DC040</p> <p>iPC RS3DC040 MM# 934644 UPC 00735858265362 EAN 5032037107167 MOQ 5</p> <p>Product type Accessory kit</p> | <p>Low Profile, half length, (MD2 Compliant) PCIe* add-in card 4 internal SAS / SATA ports LSI* SAS3108 ROC RAID Levels – 0, 1, 5, 6, 10, 50, and 60 Embedded 1GB DDR3 Cache Memory Supports Maintenance Free Backup Unit – iPC AXXRMFBU4 Supports the following Intel® RAID Accessory Options:</p> <ul style="list-style-type: none"> • Intel® RAID SSD Cache with Fast Path I/O – iPC AXXRPFKSSD2 • Intel® RAID Drive Encryption Management – iPC AXXRPFKDE2 • Intel® RAID Rapid Recovery Snapshot – iPC AXXRPFKNSH2 <p>SAS data cables not included and must be purchased separately.</p> |
|  | <p>Intel® RAID Controller RS3SC008</p> <p>iPC RS3SC008 MM# 928223 UPC 00735858266956 EAN 5032037068567 MOQ 5</p> <p>Product type Accessory kit</p> | <p>Low Profile, half length, (MD2 Compliant) PCIe* add-in card 8 external SAS / SATA ports LSI* SAS3108 ROC RAID Levels – 0, 1, 5, 6, 10, 50, and 60 Embedded 1GB DDR3 Cache Memory Supports Maintenance Free Backup Unit – iPC AXXRMFBU4 Supports the following Intel® RAID Accessory Options:</p> <ul style="list-style-type: none"> • Intel® RAID High Availability Activation Key – iPC AXXRPFKHA2 • Intel® RAID SSD Cache with Fast Path I/O – iPC AXXRPFKSSD2 • Intel® RAID Drive Encryption Management – iPC AXXRPFKDE2 • Intel® RAID Rapid Recovery Snapshot – iPC AXXRPFKNSH2 <p>SAS data cables not included and must be purchased separately.</p> |
|  | <p>Intel® RAID Controller RS3GC008</p> <p>iPC RS3GC008 MM# 928220 UPC 00735858267175 EAN 5032037053839 MOQ 5</p> <p>Product type Accessory kit</p> | <p>Low Profile, half length, (MD2 Compliant) PCIe* add-in card Entry Level SAS Card 8 external SAS / SATA ports LSI* SAS3008 IOC RAID Levels – JBOD (SAS/SATA Connectivity)</p> <p>SAS data cables not included and must be purchased separately.</p> |
|  | <p>Intel® RAID Controller RS3UC080</p> <p>iPC RS3UC080 MM# 928218 UPC 00735858267649 EAN 5032037053938 MOQ 5</p> <p>Product type Accessory kit</p> | <p>Low Profile, half length, (MD2 Compliant) PCIe* add-in card Entry Level SAS RAID Card 8 internal SAS / SATA ports LSI* SAS3008 IOC RAID Levels – 0, 1, 1E, 10, and JBOD</p> <p>SAS data cables not included and must be purchased separately.</p> |

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| Image | Details | Description |
|---|---|--|
|  | <p>Intel® RAID Controller RS3WC080</p> <p>iPC RS3WC080 MM# 928215 UPC 00735858267656 EAN 5032037053945 MOQ 5</p> <p>Product type Accessory kit</p> | <p>Low Profile, half length, (MD2 Compliant) PCIe* add-in card Entry Level SAS RAID Controller 8 internal SAS / SATA ports LSI* SAS3008 IOC RAID Levels – JBOD, 0, 1, 10 & Hybrid 5, 50</p> <p>SAS data cables not included and must be purchased separately.</p> |
|  | <p>Intel® RAID Controller RS3UC080J</p> <p>iPC RS3UC080J MM# 952709 UPC 00735858323840 EAN 5032037090971 MOQ 5</p> <p>Product type Accessory kit</p> | <p>Low Profile, half length, (MD2 Compliant) PCIe* add-in card Entry Level SAS RAID Controller 8 internal SAS / SATA ports LSI* SAS3008 IOC RAID Levels – JBOD (SAS/SATA Connectivity)</p> <p>SAS data cables not included and must be purchased separately.</p> |
|  | <p>Intel® RAID Controller RSP3QD160J</p> <p>iPC RSP3QD160J MM# 954491 UPC 00735858329101 EAN 5032037095228 MOQ 5</p> <p>Product type Accessory kit</p> | <p>Low Profile, half length, (MD2 Compliant) PCIe* add-in card Entry level Tri-Mode SAS/SATA/NVMe adapter. 16 internal SAS / SATA ports / 4 NVMe LSI* SAS3416 IOC RAID Levels – JBOD (SAS/SATA/NVMe Connectivity)</p> <p>SAS and NVMe data cables not included and must be purchased separately.</p> |
|  | <p>Intel® RAID Controller RSP3GD016J</p> <p>iPC RSP3GD016J MM# 954492 UPC 00735858329156 EAN 5032037095273 MOQ 5</p> <p>Product type Accessory kit</p> | <p>Low Profile, half length, (MD2 Compliant) PCIe* add-in card Entry level Tri-Mode SAS/SATA/NVMe adapter. 16 external SAS / SATA ports / 4 NVMe LSI* SAS3416 IOC RAID Levels – JBOD (SAS/SATA/NVMe Connectivity)</p> <p>SAS and NVMe data cables not included and must be purchased separately.</p> |

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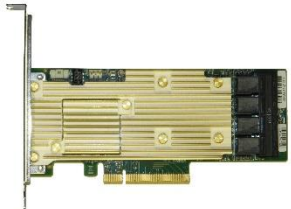








| Image | Details | Description |
|---|---|--|
|  | <p>Intel® RAID Controller RSP3WD080E</p> <p>iPC RSP3WD080E MM# 954495 UPC 00735858329170 EAN 5032037095297 MOQ 5</p> <p>Product type Accessory kit</p> | <p>Low Profile, half length, (MD2 Compliant) PCIe* add-in card Entry level Tri-Mode RAID Controller 8 internal SAS/SATA ports/2 NVMe Avago* SAS3408 IOC RAID Levels – 0/1/10/5 and JBOD</p> <p>SAS and NVMe data cables not included and must be purchased separately.</p> |
|  | <p>Intel® RAID Controller RSP3TD160F</p> <p>iPC RSP3TD160F MM# 954493 UPC 00735858329163 EAN 5032037095280 MOQ 5</p> <p>Product type Accessory kit</p> | <p>Low Profile, half length, (MD2 Compliant) PCIe* add-in card Full Featured Tri-Mode RAID Controller 16 internal SAS / SATA ports / 4 NVMe Avago* SAS3516 ROC RAID Levels – 0/1/10/5/6/50/60 and JBOD Supports Maintenance Free Backup Unit – iPC AXXRMFBU7</p> <p>SAS and NVMe data cables not included and must be purchased separately.</p> |
|  | <p>Intel® RAID Controller RSP3DD080F</p> <p>iPC RSP3DD080F MM# 954496 UPC 00735858329187 EAN 5032037095303 MOQ 5</p> <p>Product type Accessory kit</p> | <p>Low Profile, half length, (MD2 Compliant) PCIe* add-in card Full Featured Tri-Mode RAID Controller 8 internal SAS / SATA ports / 2 NVMe Avago* SAS3508 ROC RAID Levels – 0/1/10/5/6/50/60 and JBOD Supports Maintenance Free Backup Unit – iPC AXXRMFBU7 Supports the following Intel® RAID Accessory Options:</p> <ul style="list-style-type: none"> • Intel® RAID Drive Encryption Management – iPC AXXRPFKDE2 <p>SAS and NVMe data cables not included and must be purchased separately.</p> |
|  | <p>Intel® RAID Controller RSP3MD088F</p> <p>iPC RSP3MD088F MM# 954551 UPC 00735858329194 EAN 5032037095310 MOQ 5</p> <p>Product type Accessory kit</p> | <p>Low Profile, half length, (MD2 Compliant) PCIe* add-in card Full Featured Tri-Mode RAID Controller 8 internal + 8 external SAS / SATA ports / 4 NVMe Avago* SAS3516 ROC RAID Levels – 0/1/10/5/6/50/60 and JBOD Supports Maintenance Free Backup Unit – iPC AXXRMFBU7 Supports the following Intel® RAID Accessory Options:</p> <ul style="list-style-type: none"> • Intel® RAID Drive Encryption Management – iPC AXXRPFKDE2 <p>SAS and NVMe data cables not included and must be purchased separately.</p> |




Table 27. SAS expander options

| Image | Details | Description |
|--|---|--|
|  | <p>SAS 3.0 12 Gb/s Expander</p> <p>iPC RES3FV288 MM# 932895 UPC 00735858287548 EAN 5032037067287 MOQ 5</p> <p>Product type Accessory kit</p> | <ul style="list-style-type: none"> • 6Gbps data aggregation for 12Gbps data transfer with 6Gb/s devices • Low Profile MD2 PCIe* add-in card form factor • 28 internal ports and 8 external ports • Redundant dual-port capable for HA and high performance systems • Power from PCIe x1 • Mini-SAS HD 8643 connectors <p>Kit includes: (1) SAS expander card; (2) HD-HD 250 mm expander to RAID card cables; PCI brackets for low-profile and full-height Required (sold separately): HD-HD expander to backplane cables (see Table 23)</p> |
|  | <p>SAS 2.0 12 Gb/s Expander</p> <p>iPC RES3TV360 MM# 932894 UPC 00735858287364 EAN 5032037067102 MOQ 5</p> <p>Product type Accessory kit</p> | <ul style="list-style-type: none"> • 36-port, 12 Gbps capable expander card <p>Kit includes: (1) SAS expander card; (6) cables to connect to 24 ports on nearby drive backplane Required (sold separately): HD-HD expander to RAID card cables (see Table 23)</p> |

Note: The onboard SATA ports are not compatible with SAS expander cards. The onboard SATA ports can be cabled directly to a specified backplane or drive only.



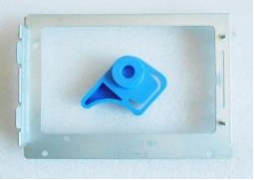

Table 28. Intel® RAID accessory options




| Image | Details | Description |
|---|--|---|
|  | <p>Intel® Embedded Server RAID Technology 2 SATA Software RAID Activation Key</p> <p>iPC RKSATA4R5 MM# 916346 UPC 00735858238861 EAN 5032037033640 MOQ 5</p> <p>Product type Accessory kit</p> | <p>Used to enable onboard SATA controllers to support Intel® Embedded Server RAID Technology 2 software RAID 5</p> |
|  | <p>Intel® Virtual RAID on CPU (Intel® VROC) – Intel® SSD Only Key</p> <p>iPC VROCISSDMOD MM# 956822 UPC 00735858337274 EAN 5032037100021 MOQ 5</p> <p>Product type Accessory kit</p> | <p>Activation key to support RAID (0, 1, 5, 10) functionality only on NVMe* SSDs from Intel</p> |
|  | <p>Intel® Virtual RAID on CPU (Intel® VROC) - Standard Model Key</p> <p>iPC VROCSTANMOD MM# 951605 UPC 00735858337243 EAN 5032037100007 MOQ 5</p> <p>Product type Accessory kit</p> | <p>Activation key to support non-Intel NVMe* SSDs and enable RAID (0, 1, 10) functionality</p> |
|  | <p>Intel® Virtual RAID on CPU (Intel® VROC) - Premium Model Key</p> <p>iPC VROCPREMMOD MM# 951606 UPC 00735858337267 EAN 5032037100014 MOQ 5</p> <p>Product type Accessory kit</p> | <p>Activation key to support non-Intel NVMe* SSDs and enable Intel® VROC Premium, RAID (0, 1, 5, 10) with RAID write hole closure</p> |

| Image | Details | Description |
|---|--|--|
|  | <p>Intel® RAID Maintenance Free Backup Unit AXXRMFBU7</p> <p>iPC AXXRMFBU7 MM# 957677 UPC 00735858336192 EAN 5032037099790 MOQ 5</p> <p>Product type Accessory kit</p> | <p>A super-capacitor module designed to protect data in dynamic memory during a power failure or system crash event. The AXXRMFBU7 is used with the full-featured tri-mode RAID modules and controllers.</p> <p>Compatible with:</p> <ul style="list-style-type: none"> • Intel® RAID Controller RSP3TD160F • Intel® RAID Controller RSP3DD080F • Intel® RAID Controller RSP3MD088F |
|  | <p>Intel® RAID Maintenance Free Backup Unit AXXRMFBU6</p> <p>iPC AXXRMFBU6 MM# 945975 UPC 00735858306768 EAN 5032037080163 MOQ 5</p> <p>Product type Accessory kit</p> | <p>A super-capacitor module designed to protect data in dynamic memory during a power failure or system crash event. The AXXRMFBU6 is used with the full-featured RAID controllers.</p> <p>Compatible with:</p> <ul style="list-style-type: none"> • Intel® Integrated RAID Module RMS3AC160 |
|  | <p>Intel® RAID Maintenance Free Backup Unit AXXRMFBU4</p> <p>iPC AXXRMFBU4 MM# 937318 UPC 00735858273787 EAN 5032037058544 MOQ 5</p> <p>Product type Accessory kit</p> | <p>A super-capacitor module and flash memory card designed to help protect data in dynamic memory during a power failure or system crash event. The AXXRMFBU4 kit is used with the 12 Gb/s Intel® RAID Controller PCIe* Add-in Cards.</p> <p>Compatible with:</p> <ul style="list-style-type: none"> • Intel® RAID Controller RS3DC080 • Intel® RAID Controller RS3DC040 • Intel® RAID Controller RS3SC008 • Intel® RAID Controller RS3MC044 |

4.4 Power Supply Modules and Power Cords

Table 29. Power supply modules and power cords

| Image | Details | Description |
|---|--|--|
|  | <p>750 W Common Redundant Power Supply</p> <p>iPC FXX750PCRPS MM# 915604 UPC 00735858234979 EAN 5032037030601 MOQ 1</p> <p>Product type Building block/spare FRU</p> | <p>750 W AC common redundant power supply with 80 PLUS* Platinum efficiency. Power cord sold separately.</p> |
|  | <p>1600 W AC Common Redundant Power Supply</p> <p>iPC FXX1600PCRPS MM# 915606 UPC 00735858243650 EAN 5032037038294 MOQ 1</p> <p>Product type Building block/spare FRU</p> | <p>1600 W AC common redundant power supply with 80 PLUS* Platinum efficiency. Power cord sold separately.</p> |
|  | <p>Non-Redundant Power Supply Adapter Bracket</p> <p>iPC FUPNRPSADP MM# 912769 UPC 00735858219471 EAN 5032037016278 MOQ 1</p> <p>Product type Building block/spare FRU</p> | <p>Power supply adapter bracket kit for Intel® Server Chassis P4000 product family.</p> <p>Includes: Bracket, screws, and locker</p> |
|  | <p>Redundant Power Supply Cage</p> <p>iPC FUPCRPSCAGE MM# 915607 UPC 00735858235891 EAN 5032037030656 MOQ 1</p> <p>Product type Building block/spare FRU</p> | <p>Common pedestal common redundant power supply bay assembly for Intel® Server Chassis P4304XXMUXX.</p> <p>Includes: Bay, adapter bracket, screws, supporting bulkhead, and (1) blank filler</p> |

| Image | Details | Description |
|---|--|---|
|  | <p>Spare Power Distribution Board</p> <p>iPC FUPPDBHC2 MM# 936420 UPC 00735858290036 EAN 5032037068871 MOQ 1</p> <p>Product type Building block/spare FRU</p> | <p>Spare power distribution board (high current) for Intel® Server Chassis P4304XXMUXX. Used with FXX750PCRPS or FXX1600PCRPS power supplies.</p> |
|  | <p>1500 mm (59 in) North America power cable</p> <p>iPC FPWRCABLENA MM# 879287 UPC 00735858181129 EAN 5032037015738 MOQ 1</p> <p>Product type Spare FRU</p> | <p>1500 mm (59 in) North America power cable</p> |
|  | <p>Power Adapter</p> <p>iPC FXXSSIPWR MM# 936430 UPC 00735858289702 EAN 5032037068642 MOQ 10</p> <p>Product type Accessory kit</p> | <p>Power adapter/dongle for chassis with limited space access for board power connectors</p> <p>Note: Not required for Intel® Server Chassis.</p> |



4.5 Rack Options

The Intel® Server Chassis P4304XXMFEN2/P4304XXMUXX can be converted to a rack system with the rack bezel kit and rack rail option.

For installation information, refer to *Intel® Server Chassis P3404XXMFEN2/P4304XXMUXX Product Family System Integration and Service Guide*.

4.5.1 Rack Bezel Accessories




Table 30. Rack bezel accessory options

| Image | Details | Description |
|---|---|--|
|  | <p>Rack Bezel Frame</p> <p>iPC AUPBEZEL4UF MM# 915636 UPC 00735858235976 EAN 5032037030731 MOQ 1</p> <p>Product type Accessory kit</p> | <p>Rack bezel kit for converting Intel® Server Chassis P4000 family pedestal chassis to rack chassis.</p> <p>Includes: (1) – Bezel frame (2) – Rack handles</p> |
|  | <p>Rack Bezel Door</p> <p>iPC AUPBEZEL4UD MM# 915637 UPC 00735858235983 EAN 5032037030748 MOQ 1</p> <p>Product type Accessory kit</p> | <p>Rack bezel accessory for Intel® Server Chassis P4000 family in rack configuration. Security door only. Requires rack bezel frame (iPC AUPBEZEL4UF) to be installed.</p> <p>Includes: Snap-in door with lock and key</p> |

4.5.2 Rack Mount Kits


Caution: Exceeding the rail kit's specified maximum weight limit or misalignment of the server in the rack may result in failure of the rack rails, resulting in damage to the system or personal injury. Using two people or the use of a mechanical assist tool to install and align the server into the rack is highly recommended.

Table 31. Rack mount kits

| Image | Details | Description |
|---|--|--|
|  | <p>Enhanced Value Rail Kit</p> <p>iPC AXXELVRAIL MM# 920970 UPC 00735858244367 EAN 5032037038980 MOQ 1</p> <p>Product type Accessory kit</p> | <ul style="list-style-type: none"> • Works for all 438 mm wide Intel® Chassis 1U, 2U, 4U • Adjustment within 609.6 mm ~ 765 mm to fit difference depth rack • 424.2 mm maximum travel length • 2/3 extension from rack • 130 lbs. (59 Kgs) max support weight • Tool-less chassis attach • Tools required to attach to rails to rack <p>Note: No cable management arm support.</p> |
|  | <p>Advanced Rail Kit</p> <p>iPC AXX3U5UPRAIL MM# 915634 UPC 735858236119 EAN 5032037030892 MOQ 1</p> <p>Product type Accessory kit</p> | <p>Advanced rail kit for Intel® Server Chassis P4000 product family. Used when converting pedestal chassis to 4U rack chassis and full-extension rails are needed.</p> |
|  | <p>Cable Management Arm (CMA)</p> <p>iPC AXX3U5UCMA MM# 915635 UPC 735858236126 EAN 5032037030908 MOQ 1</p> <p>Product type Accessory kit</p> | <p>Compatible with Advanced Rail Kit AXX3U5UPRAIL option only</p> |


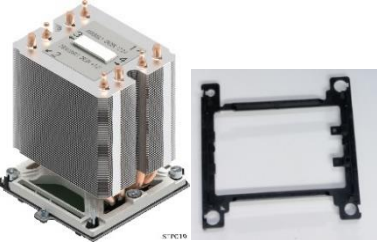

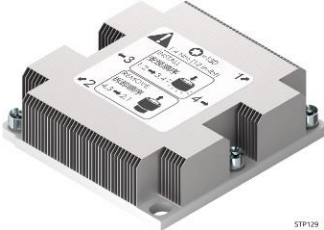
4.6 LAN Riser Card

Table 32. LAN riser card option


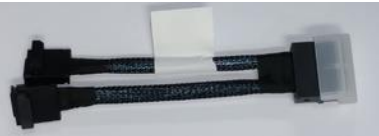


| Image | Details | Description |
|--|--|--|
|  | <p>LAN Riser Cable Kit</p> <p>iPC AXXSTSFPKIT MM# 960190 UPC 00735858346337 EAN 5032037106610 MOQ 5</p> <p>Product type Accessory kit</p> | <ul style="list-style-type: none"> • Low-profile, half-length PCIe* add-in card • Supports (2) SFP+ connectors <p>Includes:</p> <ul style="list-style-type: none"> (1) – LAN riser card with full-height bracket pre-installed (1) – 30-pin front panel cable (1) – Low-profile bracket (2) – Screws <p>Note: SFP+ data cables are not included.</p> |



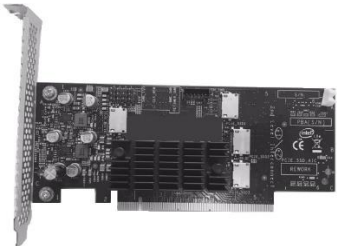

5. Miscellaneous Accessory Options


Table 33. Miscellaneous accessory options

| Image | Details | Description |
|---|--|---|
|  | <p>Intel® Remote Management Module 4 Lite Activation Key</p> <p>iPC AXXRMM4LITE2 MM# 946514 UPC 00735858307413 EAN 5032037080750 MOQ 1</p> <p>Product type Accessory kit</p> | <p>Installation of this activation key on to the server board enables support for the following advanced server management features:</p> <ul style="list-style-type: none"> • Integrated KVM • Media redirection <p>See the <i>Intel® Remote Management Module 4 and Integrated Web Console Users Guide</i> for more information.</p> |
|  | <p>Tower Passive Heat Sink Kit</p> <p>iPC AXXSTPHMKIT MM# 959813 UPC 00735858345361 EAN 5032037105941 MOQ 1</p> <p>Product type Accessory kit</p> | <p>Kit includes:</p> <p>(1) – Heat sink (1) – CPU carrier clip</p> <p>Note: One kit is required for each processor installed on an Intel® Server Board S2600ST in an Intel® Server Chassis P4000.</p> |
|  | <p>2U Hybrid Heat Sink Kit</p> <p>iPC AXXSTPHMKIT2U MM# 960402 UPC 00735858346634 EAN 5032037106696 MOQ 1</p> <p>Product type Accessory kit</p> | <p>Kit includes:</p> <p>(1) – Heat sink (1) – Fan (1) – Lid</p> <p>Required: CPU carrier clip (iPC AXXSTCPUCAR) for processor installation</p> <p>Note: One kit is required for each processor installed on an Intel® Server Board S2600ST in a compatible non-Intel 2U chassis.</p> |
|  | <p>1U Passive Heat Sink Kit</p> <p>iPC AXXSTPHMKIT1U MM# 960403 UPC 00735858346610 EAN 5032037037525 MOQ 1</p> <p>Product type Accessory kit</p> | <p>Kit includes:</p> <p>(1) – Heat sink (1) – Lid</p> <p>Required: CPU carrier clip (iPC AXXSTCPUCAR) for processor installation</p> <p>Note: One kit is required for each processor installed on an Intel® Server Board S2600ST in a compatible non-Intel 2U or 1U chassis.</p> |

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| Image | Details | Description |
|---|---|--|
|  | <p>Serial Adapter Cable Kit</p> <p>iPC AXXRJ45DB93 MM# 920430 UPC 00735858242820 EAN 5032037037525 MOQ 1</p> <p>Product type Accessory kit</p> | <p>Kit includes:</p> <p>(1) – 1040 mm serial 10-pin header to DB9 cable (1) – 520 mm serial 10-pin header to DB9 cable (1) – 100 mm DCD RJ45 to DB9 cable (1) – 100 mm DSR RJ45 to DB9 cable</p> |
|  | <p>Intel® QAT Bridge Cable</p> <p>iPC AXXSTCBLQAT MM# 959878 UPC 00735858345224 EAN 5032037105804 MOQ 1</p> <p>Product type Accessory kit</p> | <p>95 mm Intel® QAT bridge cable for Intel® Server Board S2600STQ(R).</p> |
|  | <p>BBU Bracket Kit</p> <p>iPC AXXSTBBUBRKT MM# 959895 UPC 00735858345330 EAN 5032037105910 MOQ 1</p> <p>Product type Accessory kit</p> | <p>Supports up to (3) RAID Maintenance Free Backup Units (RMFBUs).</p> |
|  | <p>GPGPU Bracket Kit</p> <p>iPC AXXSTPHIKIT MM# 959897 UPC 00735858345385 EAN 5032037105965 MOQ 1</p> <p>Product type Accessory kit</p> | <p>Kit for securing full-length GPU cards to fan bulkhead.</p> <p>Kit includes:</p> <p>(1) – Bracket (3) – GPGPU power cables (3) – Brackets for Intel® Xeon Phi™ processors (1) – 2 x 2 AUX in power cable</p> <p>Note: Limited feature substitute available (iPC AUPMCOPROBR). See Table 34 for details.</p> |



| Image | Details | Description |
|---|---|--|
|  | <p>Trusted Platform Module (TPM) 2.0</p> <p>iPC AXXTPMENC8 MM# 955867 UPC 00735858345712 EAN 5032037106207 MOQ 1</p> <p>Product type Accessory kit</p> | <p>A TPM is a hardware-based security device that addresses the growing concern on boot process integrity and offers better data protection. TPM protects the system start-up process by ensuring it is tamper-free before releasing system control to the operating system. A TPM device provides secured storage to store data, such as security keys and passwords. In addition, a TPM device has encryption and hash functions.</p> <p>AXXTPMENC8 implements TPM as per TPM PC Client specifications revision 2.0 by the Trusted Computing Group (TCG)</p> |
|  | <p>Intel® Trusted Platform Module (TPM) 2.0</p> <p>iPC AXXTPMCHNE8 MM# 960608 UPC 00735858347341 EAN 5032037107068 MOQ 1</p> <p>Product type Accessory kit</p> | <p>Note: AXXTPMCHNE8 compatible for use in China.</p> <p>A TPM is a hardware-based security device that addresses the growing concern on boot process integrity and offers better data protection. TPM protects the system start-up process by ensuring it is tamper-free before releasing system control to the operating system. A TPM device provides secured storage to store data, such as security keys and passwords. In addition, a TPM device has encryption and hash functions.</p> <p>AXXTPMCHNE8 implements TPM as per TPM PC Client specifications revision 2.0 by the Trusted Computing Group (TCG)</p> |
|  | <p>4-Port PCIe* (x16 to x16) SSD Retimer Add-In Card 4P (OCuLink)</p> <p>iPC AXXP3RTX16040 MM# 958240 UPC 00735858345613 EAN 5032037106108 MOQ 1</p> <p>Product type Accessory kit</p> | <p>The SSD retimer add-in card connects to four x4 PCIe Gen3 links from any standard x16 PCIe slot on the baseboard to a PCIe SSD capable HSBP via four bundled OCuLink cables. The retimer is a low-profile form factor standard x16 PCIe card.</p> <p>Kit includes:</p> <ul style="list-style-type: none"> (1) – 4-Port PCIe SSD Retimer AIC – iPN H88402-xxx (1) – 350 mm PEM Cable – iPN J14812-xxx (1) – Low profile bracket – iPN J32838-xxx <p>Required: Cable kit A2U4PRTCXCXK to connect the switch to the HSBP</p> |
|  | <p>4 Port PCIe* x8 Switch Add-In Card</p> <p>iPC AXXP3SWX08040 MM# 958241 UPC 00735858345620 EAN 5032037106115 MOQ 1</p> <p>Product type Accessory kit</p> | <p>This switch add-in card is used to increase the number of PCIe SSD drives within the system by 4. The 4-drive switch is a low profile MD2 form factor PCIe card.</p> <p>Required: Cable kit AXXCBL625CVCX to connect the switch to the HSBP</p> |


| Image | Details | Description |
|--|---|---|
|  | <p>8 Port PCIe* x8 Switch Add-In Card</p> <p>iPC AXXP3SWX08080 MM# 958242 UPC 00735858345637 EAN 5032037106122 MOQ 1</p> <p>Product type Accessory kit</p> | <p>This switch add-in card is used to increase the number of PCIe SSD drives within the system by 8. The 8-drive switch is a full height form factor PCIe card. For non-Intel chassis use only.</p> <p>Required: Cable kit A2U8PSWCXCXK1 to connect the 8-port switch to the HSBP</p> |

5.1 Limited-Feature Compatible Accessory Kits

Table 34 lists legacy accessory kits that can be used when integrating a system with the Intel Server Board S2600ST product family and Intel® Server Chassis P4304XXMUXX or P4304XXMFEN2.

Table 34. Limited-feature compatible accessory kits





| Image | Details | Description |
|---|---|--|
|  | <p>8 x 2.5" Hot-Swap Drive Cage Kit</p> <p>iPC FUP8X25S3HSDK MM# 936425 UPC 00735858290005 EAN 5032037068840 MOQ 1</p> <p>Product type Accessory kit</p> | <p>Includes:</p> <ul style="list-style-type: none"> (1) – drive cage (1) – hot-swap backplane – iPC FXX8X25S3HSBP (8) – 2.5" hot-swap tool-less drive carriers – iPC FXX25HSCAR (1) – I2C cable (1) – power adapter cable accessory (1) – ID filler panel <p>Note: Cable kit AXXSTI2CCBL is required when using this accessory kit.</p> |
|  | <p>4 x 3.5" Hot-Swap Drive Cage Kit</p> <p>iPC FUP4X35S3HSDK MM# 936623 UPC 00735858289993 EAN 5032037068833 MOQ 1</p> <p>Product type Accessory kit</p> | <p>Includes:</p> <ul style="list-style-type: none"> (1) – drive cage (1) – hot-swap backplane – iPC FUP4X35S3HSBP (4) – 3.5" hot-swap tool-less drive carriers – iPC FXX35HSCAR (1) – I2C cable (1) – ID filler panel <p>Note: Cable kit AXXSTI2CCBL is required when using this accessory kit.</p> |

| Image | Details | Description |
|--|--|--|
|  | <p>Bracket and Extension Kit</p> <p>iPC AUPMCOPROBR MM# 926364 UPC 00735858257046 EAN 5032037049139 MOQ 1</p> <p>Product type Accessory kit</p> | <p>Kit for securing full-length GPU cards to fan bulkhead.</p> <p>Kit includes:</p> <ul style="list-style-type: none"> (1) – Bracket (2) – GPGPU power cables (2) – Brackets for Intel® Xeon Phi™ processors (5) – Screws for GPGPU fixture |


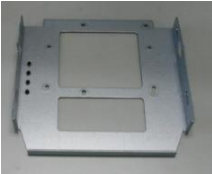

6. Spare and Replacement Parts (FRUs)




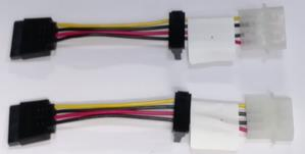
System integrators and distributors may choose to hold additional stock of individual system components. Intel makes available the following spare and replacement parts (FRUs) compatible with the specified Intel® server family.





Table 35. Spare and replacement parts




| Image | Details | Description |
|---|---|---|
|  | <p>FUP550SNRPS</p> <p>Product discontinued as of July 1, 2018. See PCN 116128-01 for more details.</p> | |
|  | <p>Spare Front Panel</p> <p>iPC FXXFPANELR MM# 946534 UPC 00735858307444 EAN 5032037080781 MOQ 1</p> <p>Product type Spare FRU</p> | <p>Front panel board for Intel® Server Chassis P4000 product family.</p> |
|  | <p>Spare Bezel</p> <p>iPC FUPBEZELFIX2 MM# 925750 UPC 00735858254663 EAN 5032037047593 MOQ 1</p> <p>Product type Spare FRU</p> | <p>Spare bezel with fixed drives (no door) for Intel® Server Chassis P4000 product family</p> |
|  | <p>Spare Air Duct</p> <p>iPC A4UCWDUCT MM# 936419 UPC 00735858290029 EAN 5032037068864 MOQ 1</p> <p>Product type Spare FRU</p> | <p>Spare air duct for Intel® Server Board S2600ST support in Intel® Server Chassis P4000</p> |

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| Image | Details | Description |
|---|--|---|
|  | <p>I/O Shield AXXCWIOS Product discontinued as of June 28 2019. See PCN 117036-00 for more details.</p> | |
|  | <p>Fixed Drive Carrier</p> <p>iPC FUP4X35NHDK MM# 912770 UPC 735858219488 EAN 5032037016247 MOQ 1</p> <p>Product type Spare FRU</p> | <p>Spare fixed drive carrier for Intel® Server Chassis P4304XXMUXX or P4304XXMFEN2 (also compatible with 2.5" HDDs/SSDs)</p> |
| <p>No image</p> | <p>Chassis Maintenance Kit</p> <p>iPC FUPMMSK MM# 915638 UPC 735858235990 EAN 5032037030755 MOQ 1</p> <p>Product type Spare FRU</p> | <p>Chassis maintenance kit (mechanical spares kit) for Intel® Server Chassis P4000</p> <p>Includes: (2) – EMI cover (4) – ODD rail (1) – PCI card retainer (2) – PCI EMI cover (3) – 5.25" EMI cover (4) – #6 -32 screw (20) – M3x12 USB cable screw (2) – M2x10 screw (2) – Plastic clamp for cabling (5) – Plastic bumper (3) – Plastic ODD cover (1) – Power button cap</p> |
|  | <p>80 mm System Fan Kit</p> <p>iPC FUPMLHSFAN MM# 915620 UPC 735858235969 EAN 5032037030724 MOQ 1</p> <p>Product type Spare FRU</p> | <p>80 mm system fan kit for Intel® Server Chassis P4000 family, for use in redundant cooling configuration</p> |

| Image | Details | Description |
|--|---|--|
|  | <p>120 mm Fixed CPU Fan Kit</p> <p>iPC FUPNHFANCPU MM# 919572 UPC 735858236034 EAN 5032037030793 MOQ 1</p> <p>Product type Spare FRU</p> | <p>120 mm fixed fan spare kit for CPU area fan in Intel® Server Chassis P4000 family</p> |
|  | <p>120 mm Fixed PCI Fan Kit</p> <p>iPC FUPMNHFANPCI MM# 919575 UPC 00735858236041 EAN 5032037030809 MOQ 1</p> <p>Product type Spare FRU</p> | <p>120 mm fixed fan spare kit for PCI area fan in Intel® Server Chassis P4000 family</p> |
|  | <p>Spare Kit for Front Panel</p> <p>iPC AXXSTFPCBLKIT MM# 959730 UPC 00735858345194 EAN 5032037105774 MOQ 1</p> <p>Product type Spare FRU</p> | <p>Includes: (1) – 30-pin 920 mm front panel cable (1) – 800 mm USB 3.0 cable for front panel</p> |
|  | <p>SATA Power Adapter Cable Kit</p> <p>iPC AXXSTCBL SATA MM# 960399 UPC 00735858347105 EAN 5032037107013 MOQ 1</p> <p>Product type Spare FRU</p> | <p>Includes: (2) – 4-pin to SATA power cable</p> |

| Image | Details | Description |
|--|---|--|
|  | <p>M.2 Bracket Spare Kit</p> <p>iPC AXXSTM2BRKT MM# 960400 UPC 00735858346368 EAN 5032037106641 MOQ 1</p> <p>Product type Spare FRU</p> | <p>Includes: (1) – Bracket (2) – Screws</p> |
|  | <p>Processor Carrier Clip</p> <p>iPC AXXSTCPUCAR MM# 960401 UPC 00735858347372 EAN 5032037107099 MOQ 1</p> <p>Product type Spare FRU</p> | <p>Includes (1) carrier clip spare.</p> |
|  | <p>Redundant Fan Cable Assembly</p> <p>iPC AXXSTCBLFAN MM# 960404 UPC 00735858347112 EAN 5032037107020 MOQ 1</p> <p>Product type Spare FRU</p> | <p>Redundant fan cable assembly</p> |
|  | <p>I2C Cable Kit</p> <p>iPC AXXSTI2CCBL MM# 960398 UPC 00735858346351 EAN 5032037106634 MOQ 1</p> <p>Product type Spare FRU</p> | <p>I2C cable kit E-CBL-KIT-I2CDRV</p> <p>Includes: (1) – 4-pin to 6-pin 350mm I2C cable (1) – 4-pin to 5-pin 350mm I2C cable (1) – 5-pin to 6-pin 220mm I2C cable (1) – 6-pin to 6-pin 220mm I2C cable (1) – 5-pin to 5-pin 220mm I2C cable (1) – 5-pin to 5-pin 75mm I2C cable (1) – “Y” shaped 150mm power cable for backplane</p> |

| Image | Details | Description |
|---|--|--|
|  | <p>Intrusion Cable</p> <p>iPC FXXSTCBLINTR MM# 959890 UPC 00735858345309 EAN 5032037105880 MOQ 1</p> <p>Product type Spare FRU</p> | <p>Intrusion cable spare for Intel® Chassis P4304XXMUXX and P4304XXMFEN2</p> |
|  | <p>2.5" Tool Less Hot-Swap Drive Carrier</p> <p>iPC FXX25HSCAR3 MM# 958244 UPC 00735858345668 EAN 5032037106153 MOQ 1</p> <p>Product type Spare FRU</p> | <p>Spare 2.5" tool less drive hot-swap carrier</p> |
|  | <p>3.5" Tool Less Hot-Swap Drive Carrier</p> <p>iPC FXX35HSCAR2 MM# 958245 UPC 00735858345675 EAN 5032037106160 MOQ 1</p> <p>Product type Spare FRU</p> | <p>Spare 3.5" tool less drive hot-swap drive carrier Includes mounting screws for mounting 2.5" SSDs.</p> |

Appendix A. Glossary

| Term | Definition |
|---------------------------|---|
| AIC | Add-In Card |
| CMA | Cable Management Arm |
| CRPS | Common Redundant Power Supply |
| EAN | International Article Number (Barcode) |
| ECC | Error Correcting Code |
| EMI | Electromagnetic Interference |
| FRU | Field Replaceable Unit |
| GPGPU | General Purpose computing on Graphics Processing Unit |
| iPC | Intel Product Code |
| iPN | Intel Product Number |
| JBOD | Just a bunch of drives |
| KVM | Keyboard, Video, Mouse |
| MM# | Master Material order number |
| MOQ | Minimum Order Quantity |
| NVMe* | NVM Express* – based on Non-Volatile Memory Host Controller Interface Specification (NVMHCI) |
| Optional Accessory | Hardware that can be added to the system to enhance the default feature set of the shipping configuration |
| Intel® QAT | Intel® QuickAssist Technology |
| RAID | Redundant Array of Independent Drives |
| Required Option | Hardware that must be added to the shipping configuration for the system to operate |
| RMFBU | RAID Maintenance Free Backup Unit |
| Intel® RMM4 Lite | Intel® Remote Management Module 4 Lite Activation key |
| ROC | RAID on Chip |
| Intel® RSTe | Intel® Rapid Storage Technology enterprise |
| SAS | Serial Attached SCSI |
| SATA | Serial ATA |
| SFF NVMe* | NVMe SSD in a 2.5" form factor |
| SFP | Small Form factor Pluggable |
| SKU | Stock Keeping Unit |
| SSD | Solid State Drive |
| TPM | Trusted Platform Manager |
| UPC | Universal Product Code (Barcode) |
| Intel® VROC | Intel® Virtual RAID on CPU |

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