# SUPERMICRO®

## R12SPD-A
### QUICK REFERENCE GUIDE 1.0a

*FOR YOUR SYSTEM TO WORK PROPERLY, PLEASE DOWNLOAD APPROPRIATE DRIVERS/IMAGES/USER'S MANUAL FROM THE LINKS BELOW:*
- Manuals: http://www.supermicro.com/support/manuals
- Drivers & Utilities: https://www.supermicro.com/wdl/driver/
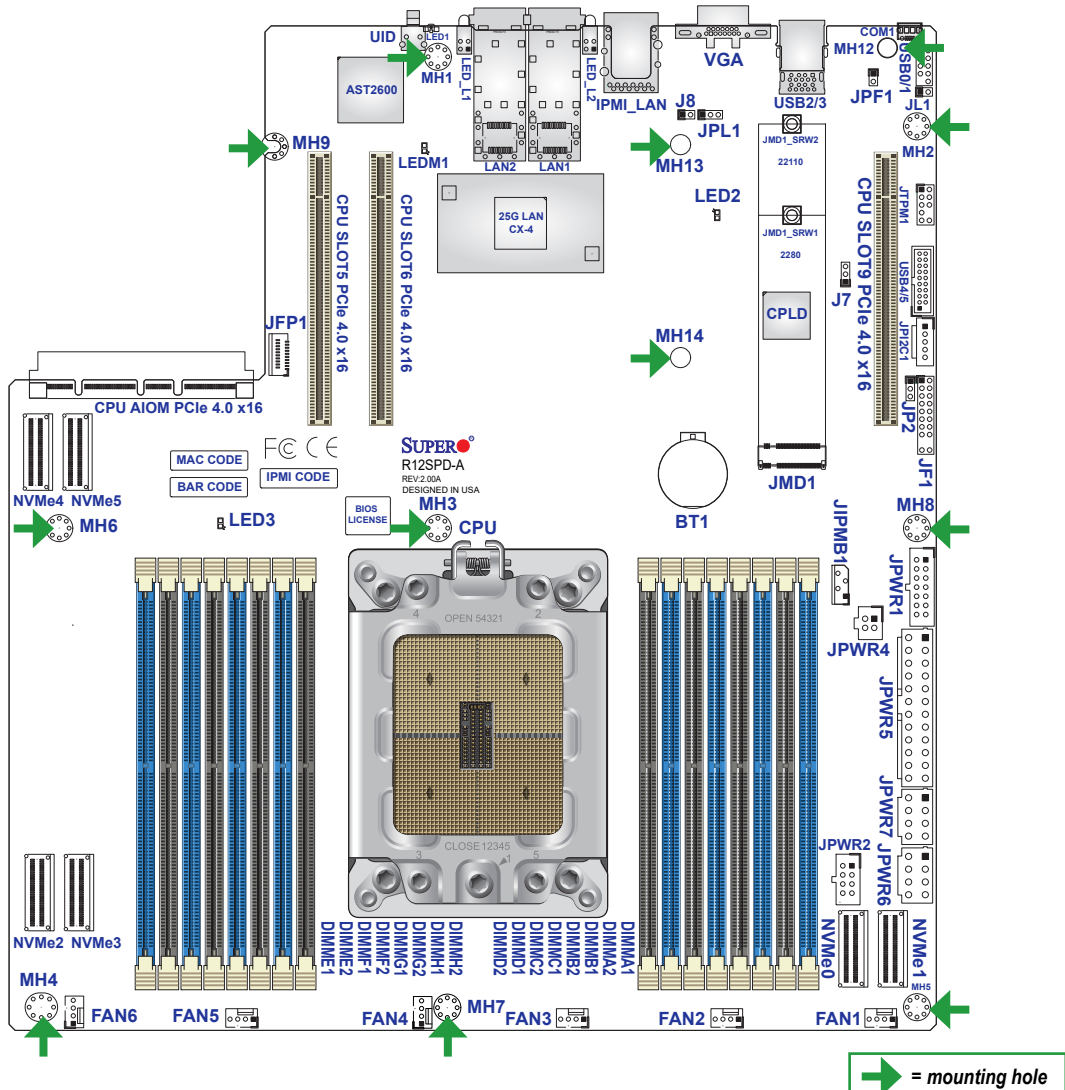- Safety: http://www.supermicro.com/about/policies/safety_information.cfm

**PACKAGE CONTENTS**
- One Supermicro Motherboard
- One Quick Reference Guide

## Motherboard Layout and Features

= mounting hole

## Rear I/O Panel Connectors
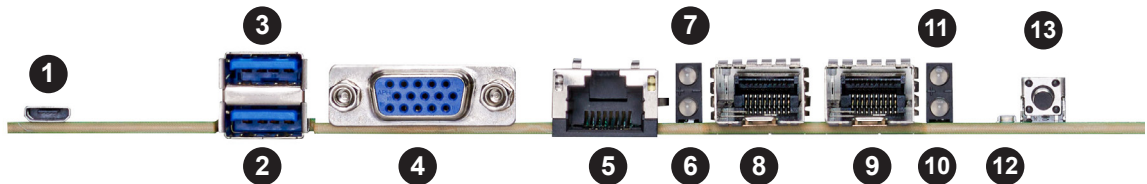
| # | Description | # | Description | # | Description |
|---|---|---|---|---|---|
| 1. | Micro-USB COM Port | 6. | SFP28 Traffic LED | 11. | SFP28 Link Speed LED |
| 2. | USB 3.0 Type-A | 7. | SFP28 Link Speed LED | 12. | UID LED |
| 3. | USB 3.0 Type-A | 8. | SFP28 Port | 13. | UID Button |
| 4. | VGA Port | 9. | SFP28 Port | | |
| 5. | RJ45 IPMI LAN Port | 10. | SFP28 Traffic LED | | |

## Jumpers, Connectors, and LED Indicators

### Jumpers

| Jumper | Description | Default Setting |
|---|---|---|
| JPL1 | LAN1/2 Enable/Disable | Pins 1–2 (Enabled) |

### Connectors

| Connector | Description |
|---|---|
| BT1 | Onboard CMOS Battery |
| COM1 | Micro-USB COM Port |
| CPU AIOM PCIe 4.0 x16 | PCIe 4.0 x16 AIOM Slot |
| FAN1 – FAN5 | CPU/System Fan Headers (FAN1: CPU Fan) |
| FAN6 | AUX Fan Header |
| IPMI_LAN | Dedicated IPMI LAN Port |
| JF1 | Front Control Panel Header |
| JFP1 | Front Panel Header |
| JIPMB1 | 4-pin External I$^2$C Header for an IPMI card |
| JL1 | Chassis Intrusion Header |
| JMD1 | M.2 M-Key PCIe 4.0 Connector (2280/22110) |
| JPI2C1 | Power Supply SMBus I$^2$C Header |
| JPWR1 | Proprietary PSU 14-pin Power Connector |
| JPWR2 | Proprietary PSU 8-pin Power Connector |
| JPWR4 | 5 V/12 V Power Connector for Special Riser Card |
| JPWR5 | ATX PSU 24-pin Power Connector |
| JPWR6, JPWR7 | ATX PSU 8-pin Power Connector |
| JTPM1 | Trusted Platform Module (TPM) 2.0 |
| LAN1, LAN2 | SFP28 10G/25G LAN Ports |
| NVMe0 x8 – NVMe5 x8 | PCIe 4.0 x8 SlimSAS NVMe Connectors |
| UID | Unit Identifier Button |
| USB0/1 | Front-Accessible USB 2.0 Header |
| USB2/3 | USB 3.0 Type-A Ports on the Rear I/O Panel |
| USB4/5 | Front-Accessible USB 3.0 Header |
| VGA | VGA Port |

### LED Indicators

| LED | Description | Status |
|---|---|---|
| LED1 | Unit Identifier LED | Solid Blue: Unit Identified |
| LED2 | Power LED | Solid Green: Power On |
| LED3 | System Status LED | Solid Red: CPU Fault |
| LED_L1 | SFP28 LAN Status for LAN2 | Top LED Yellow: 10G Link<br>Top LED Green: 25G Link<br>Bottom LED Green: Port Activity |
| LED_L2 | SFP28 LAN Status for LAN1 | Top LED Yellow: 10G Link<br>Top LED Green: 25G Link<br>Bottom LED Green: Port Activity |
| LEDM1 | BMC Heartbeat LED | Blinking Green: BMC Normal |

## Memory and CPU Support

### Memory Support

The R12SPD-A supports up to 4 TB of ECC and Non-ECC UDIMM/LRDIMM/RDIMM/3DS RDIMM memory with speeds of up to 3200 MT/s in 16 memory slots.

### CPU Installation

The R12SPD-A motherboard supports the Ampere® Altra™ 80-core and Altra Max™ 128-core processors with a TDP of up to 250 W in an LGA 4926 socket.
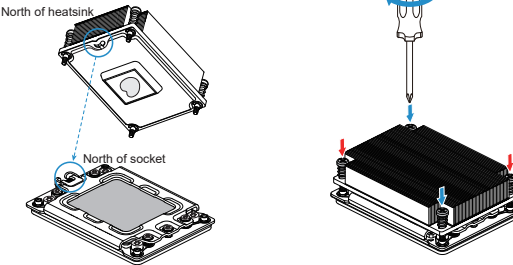
1. Use a screwdriver with a Torx T20 screw head bit to unscrew the socket force frame. Unscrew counterclockwise in the sequence 5-4-3-2-1. Align CPU pad cutout to the respective cutout on the LGA 4926 socket.
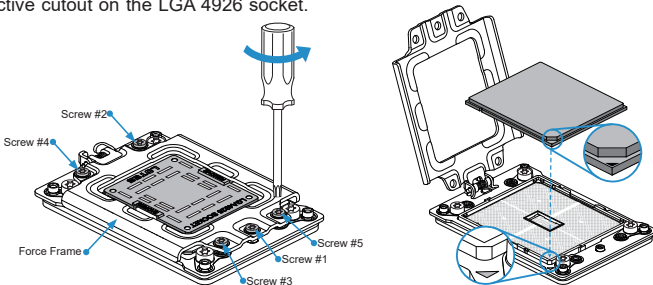
2. Use a torque screwdriver set to 16.1 kgf-cm (14 lbf-in) with a Torx T20 screw head bit to screw in the socket force frame. Screw in clockwise in the sequence 1-2-3-4-5.
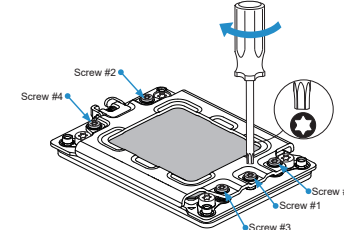
3. Align the heatsink to the socket. Starting with two screws on opposite corners, use a Phillips #1 screwdriver to screw in the heatsink.

### Front Control Panel (JF1)

**JF1**

| | | 1 | 2 | | |
|---|---|---|---|---|---|
| PWR | Power Button | o | o | Ground | |
| Reset | Reset Button | o | o | Ground | |
| | 3.3V | o | o | PS FAIL | |
| | Red+ (Blue LED_Cathode_UID) | o | o | Blue+ (Red OH/Fan Fail/PWR Fail) | |
| | 3.3V Stby | o | o | NIC2 Activity LED | |
| | 3.3V Stby | o | o | NIC1 Activity LED | |
| | ID_UID/3.3V Stby | o | o | HDD LED | |
| | 3.3V | o | o | FP PWR LED | |
| | Key | o | o | Key | |
| | X | o | o | Ground | |
| | | 19 | 20 | | |

### Front Panel (JFP1)

**JFP1**

| # | | | # | |
|---|---|---|---|---|
| 1 | Power Button | 11 | Ground |
| 2 | Reset/UID Button | 12 | I2C Data |
| 3 | UID LED_N | 13 | I2C Clock |
| 4 | Fail LED_N (OH/FF/PF) | 14 | Ground |
| 5 | LAN2 Activity LED | 15 | Power Fail LED_P |
| 6 | LAN1 Activity LED (Aggregate all LAN) | 16 | P5V_USB |
| 7 | HDD Activity LED | 17 | P5V_USB |
| 8 | Standby LED_N | 18 | P5V_USB |
| 9 | Power LED_N | 19 | Power Fail LED_N |
| 10 | P3V3_STBY | 20 | Ground |

*Note: Graphics shown in this quick reference guide are for illustration only. Your components may or may not look exactly the same as drawings shown in this guide.*

*Note: Refer to Chapter 2 of the User Manual for detailed information on jumpers, connectors, and LED indicators.*

*Note: Refer to Chapter 2 of the User Manual for detailed information on memory support and CPU/motherboard installation instructions.*

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