

#### CONTACT INFORMATION

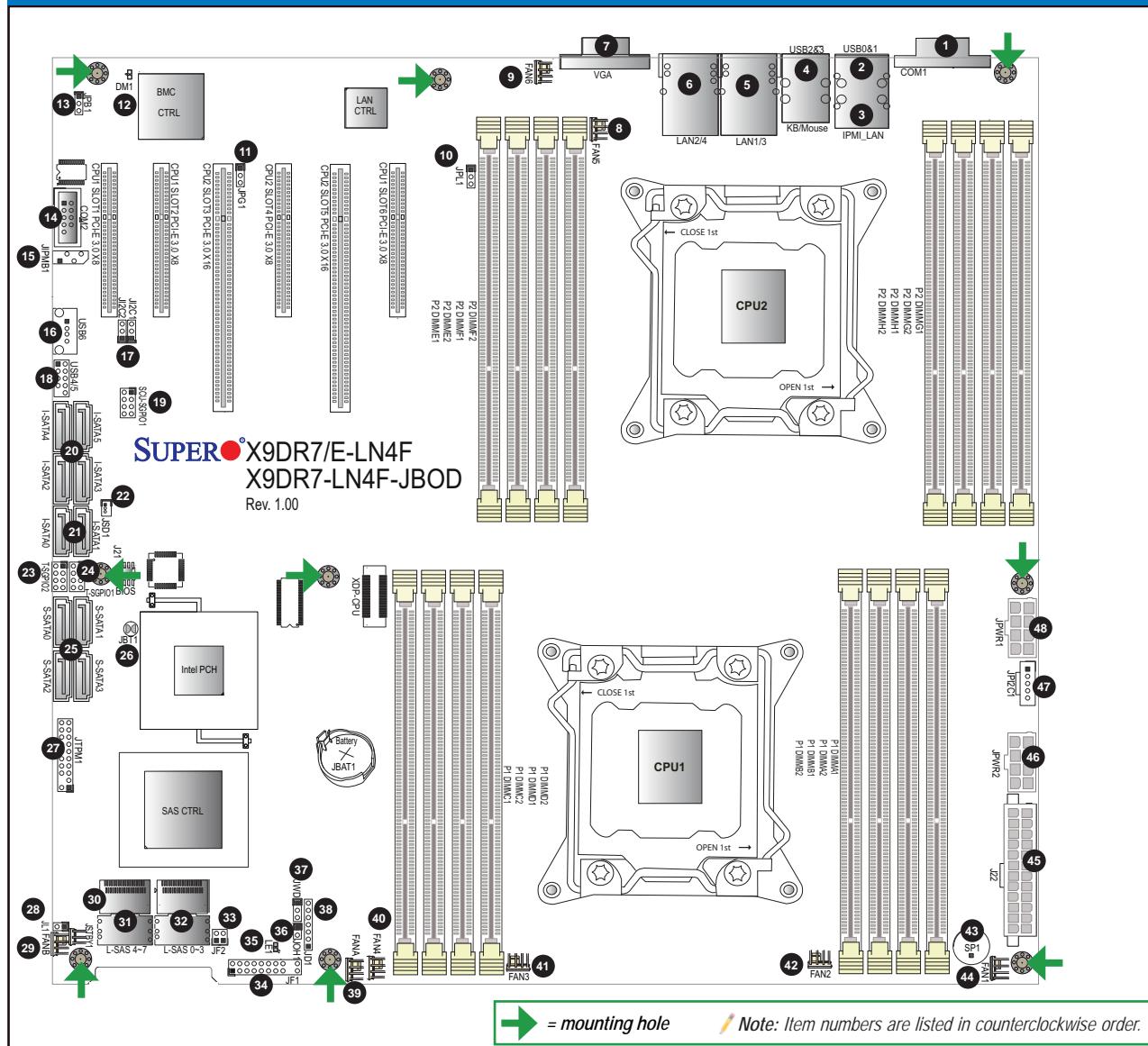
- www.supermicro.com (Email: support@supermicro.com)
- Manuals: http://www.supermicro.com/support/manuals
- Drivers & Utilities: ftp://ftp.supermicro.com
- Safety: http://www.supermicro.com/about/policies/safety\_information.cfm

#### PACKAGE CONTENTS (Applies to single-pack only)

- One (1) Supermicro Motherboard
- Six (6) Serial ATA Cables (X9DRE-LN4F)
- Two (2) Serial ATA Cables (X9DR7-LN4F and X9DR7-LN4F-JBOD)

- Two (2) I-Pass to Serial ATA Cables (X9DR7-LN4F and X9DR7-LN4F-JBOD)
- One (1) I/O Shield

## Motherboard Layout and Features



## Jumpers, Connectors and LED Indicators

### Jumpers

| Jumper    | Item # | Description            | Default                    |
|-----------|--------|------------------------|----------------------------|
| JPC1/JPC2 | 17     | SMB to PCI-E Slots     | Pins 2-3 (Disabled)        |
| JBT1      | 26     | Clear CMOS             | See Chpt. 2 in User Manual |
| JPB1      | 13     | BMC Enabled            | Pins 1-2 (Enabled)         |
| JPG1      | 11     | VGA Enabled            | Pins 1-2 (Enabled)         |
| JPL1      | 10     | GLAN1-GLAN4 Enable     | Pins 1-2 (Enabled)         |
| JWD       | 37     | Watch Dog Timer Enable | Pins 1-2 (Reset)           |

### Connectors

| Connector           | Item #     | Description   |
|---------------------|------------|---|
| COM1/COM2           | 1, 14      | Back Panel COM Port1/Front Accessible COM2 Header                         |
| Fan 1-3             | 44, 42, 41 | CPU/System Fan Headers  |
| Fan 4-6             | 40, 8, 9   | CPU/System Fan Headers  |
| Fan A, Fan B        | 39, 29     | CPU/System Fan Headers  |
| J22                 | 45         | ATX 24-Pin Power Connector  |
| JD1                 | 38         | Speaker/Power LED Indicator   |
| JF1                 | 34         | Front Panel Control Header  |
| JF2                 | 33         | Ethernet LAN Port3/LAN Port4 Activity LED Indications                     |
| JIPMB1              | 15         | 4-pin External BMC I <sup>2</sup> C Header (for an IPMI Card)             |
| JL1                 | 28         | Chassis Intrusion   |
| JOH1                | 36         | Overheat LED Indicator  |
| JPI <sup>2</sup> C1 | 47         | Power Supply SMBus I <sup>2</sup> C Header                                |
| JPWR1/2             | 48, 46     | 12V 8-Pin Power Connectors  |
| JSD1                | 22         | SATA DOM (Disk on Module) Power Connector                                 |
| JSTBY1              | 30         | Standby Power Header  |
| JTPM1               | 27         | TPM (Trusted Platform Module)/Port 80                                     |
| LAN1/3, LAN2/4      | 5, 6       | Gigabit Ethernet LAN Ports 1/ LAN 3, LAN 2/LAN 4                          |
| (IPMI) LAN          | 3          | IPMI Dedicated LAN  |
| (-)SATA 0/1         | 21         | Intel AHCI SATA 3.0 Connectors 0/1  |
| (-)SATA 2-5         | 25         | Intel AHCI SATA 2.0 Connectors 2-5  |
| (S-)SATA 0-3        | 21         | Intel SCU SATA Connectors 0-3   |
| (L)SAS 0-3, 4-7     | 32, 31     | SAS Connections 0-3, 4-7 supported by LSI SAS Controller (for X9DR7-LN4F) |
| SP1                 | 43         | Onboard Buzzer (Internal Speaker)   |
| SCU-SGPIO 1         | 19         | SCU-SGPIO Header 1 to support S-SATA 0-3 from Intel SCU                   |
| T-SGPIO 1/2         | 24, 23     | T-SGPIO Headers 1/2 to support I-SATA 0-5                                 |
| USB 0/1, 2/3        | 2, 4       | Back Panel USB 0/1, 2/3   |
| USB 4/5             | 18         | Front Panel Accessible USB Header 4/5 (J23)                               |
| USB6                | 16         | Front Panel Accessible Type A USB Connector 6 (J25)                       |
| VGA                 | 7          | Back Panel VGA Port   |

### LED Indicators

| LED | Item # | Description          | Color/State      | Status     |
|-----|--------|----------------------|------------------|------------|
| LE1 | 35     | PWR LED              | Green: On        | Power On   |
| DM1 | 12     | BMC Heartbeat LED    | Green            | BMC Normal |
| JF2 | 33     | LAN Port 3/Port4 LED | See User's Guide |            |

## Memory Support

This motherboard supports up to 512 GB of 240-pin Registered (RDIMM)/Load Reduced (LRDIMM) ECC or up to 128 GB of Unbuffered (UDIMM) ECC/Non-ECC DDR3 800/1066/1333/1600 MHz 4-channel (per CPU) memory in 16 DIMM slots.

**Note:** For memory optimization, use only DIMM modules that have been validated by Supermicro. For the latest memory updates, please refer to our website at <http://www.supermicro.com/products/motherboard>.

### DIMM Installation

Insert the desired number of DIMMs into the memory slots, starting with P1-DIMMA1. For memory to work properly, follow the tables below for memory population order. Refer to the motherboard layout (at left) for the location of the DIMM slots.

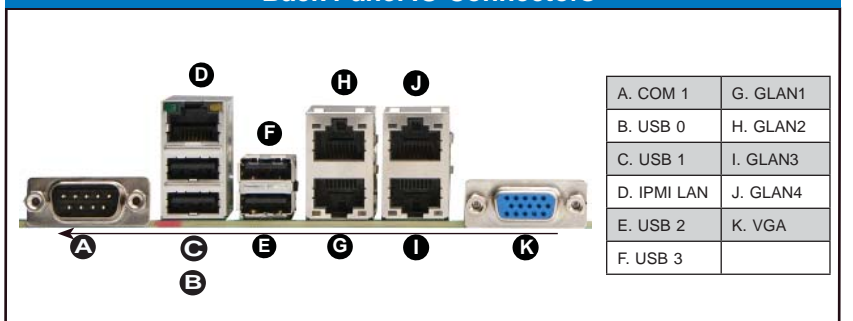
#### Processors and their Corresponding Memory Modules

| CPU#  | Corresponding DIMM Modules |           |           |           |           |           |           |           |
|-------|----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| CPU 1 | P1-DIMMA1                  | P1-DIMMB1 | P1-DIMMC1 | P1-DIMMD1 | P1-DIMMA2 | P1-DIMMB2 | P1-DIMMC2 | P1-DIMMD2 |
| CPU 2 | P2-DIMME1                  | P2-DIMMF1 | P2-DIMMG1 | P2-DIMMH1 | P2-DIMME2 | P2-DIMMF2 | P2-DIMMG2 | P2-DIMMH2 |

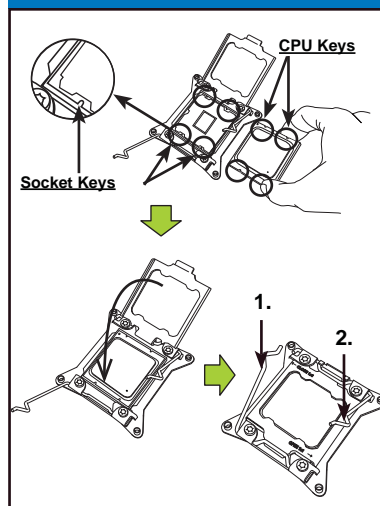
#### Processor and Memory Module Population for Optimal Performance

| Number of CPUs+DIMMs | CPU and Memory Population Configuration Table (For memory to work properly, please follow the instructions below.)  |
|----------------------|---|
| 1 CPU & 2 DIMMs      | CPU1<br>P1-DIMMA1/P1-DIMMB1   |
| 1 CPU & 4 DIMMs      | CPU1<br>P1-DIMMA1/P1-DIMMB1, P1-DIMMC1/P1-DIMMD1  |
| 1 CPU & 5-8 DIMMs    | CPU1<br>P1-DIMMA1/P1-DIMMB1, P1-DIMMC1/P1-DIMMD1 + Any memory pairs in P1-DIMMA2/P1-DIMMB2/P1-DIMMC2/P1-DIMMD2 slots  |
| 2 CPUs & 4 DIMMs     | CPU1 + CPU2<br>P1-DIMMA1/P1-DIMMB1, P2-DIMME1/P2-DIMMF1   |
| 2 CPUs & 6 DIMMs     | CPU1 + CPU2<br>P1-DIMMA1/P1-DIMMB1/P1-DIMMC1/P1-DIMMD1, P2-DIMME1/P2-DIMMF1   |
| 2 CPUs & 8 DIMMs     | CPU1 + CPU2<br>P1-DIMMA1/P1-DIMMB1/P1-DIMMC1/P1-DIMMD1, P2-DIMME1/P2-DIMMF1/P2-DIMMG1/P2-DIMMH1   |
| 2 CPUs & 10-16 DIMMs | CPU1/CPU2<br>P1-DIMMA1/P1-DIMMB1/P1-DIMMC1/P1-DIMMD1, P2-DIMME1/P2-DIMMF1/P2-DIMMG1/P2-DIMMH1 + Any memory pairs in P1, P2 DIMM slots   |
| 2 CPUs & 16 DIMMs    | CPU1/CPU2<br>P1-DIMMA1/P1-DIMMB1/P1-DIMMC1/P1-DIMMD1, P2-DIMME1/P2-DIMMF1/P2-DIMMG1/P2-DIMMH1, P1-DIMMA2/P1-DIMMB2/P1-DIMMC2/P1-DIMMD2, P2-DIMME2/P2-DIMMF2/P2-DIMMG2/P2-DIMMH2 |

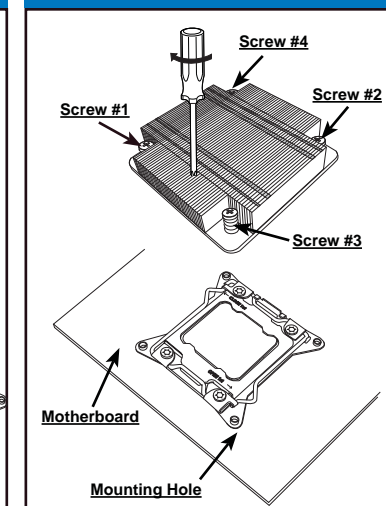
### Back Panel IO Connectors



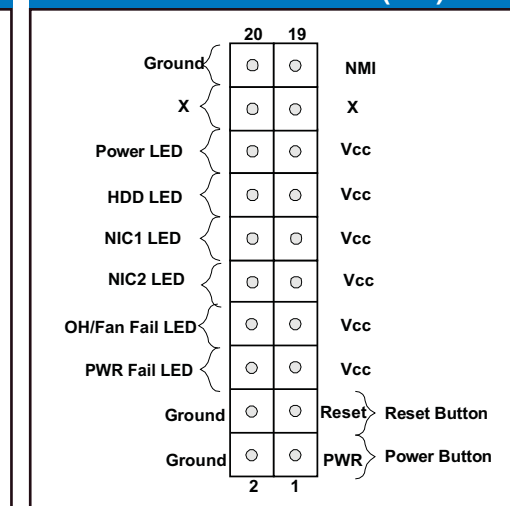
### CPU Installation



### Heatsink Installation



### Front Panel Control (JF1)



**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.