

SUPERMICR®
X12SPM-TF/-LN4F/-LN6TF
Quick Reference Guide 1.0c

CONTACT INFORMATION

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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

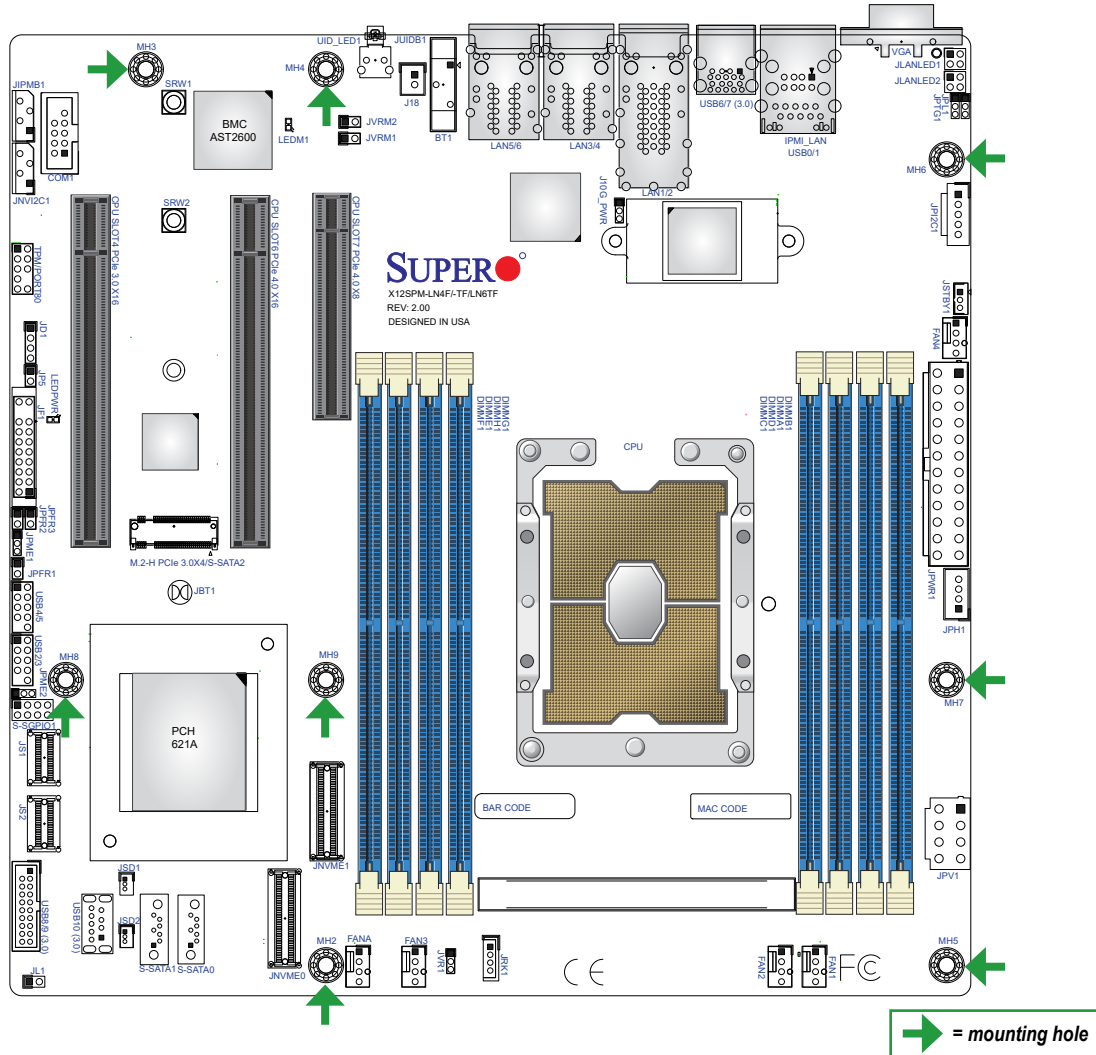
PACKAGE CONTENTS

- One Supermicro Motherboard
- Two SATA Cables
- One Quick Reference Guide



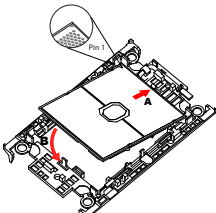
WARNING: This product can expose you to chemicals including lead, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

Motherboard Layout and Features

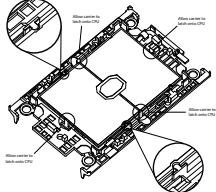


CPU and PHM Installation

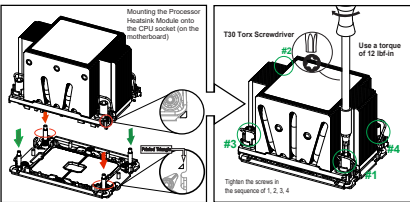
- 1 Assemble the processor carrier assembly by inserting the CPU into the processor carrier.



- 2 To form the processor heatsink module (PHM), mount the processor carrier assembly onto the heatsink and snap into place.



- 3 After assembling the PHM, mount it onto the CPU socket of the motherboard. Use a T-30 Torx-bit screwdriver to gradually install four screws into the mounting holes from #1-4.



Front Control Panel (JF1)

PWR	Power Button	1	2	Ground
Reset	Reset Button	3	4	Ground
	3.3V	5	6	Power Fail LED
UID LED		7	8	OH/Fan Fail LED
3.3V Stby		9	10	NIC2 Active LED
3.3V Stby		11	12	NIC1 Active LED
UID_SW		13	14	HDD LED
3.3V Stby		15	16	PWR LED
X		17	18	X
NMI		19	20	Ground

Jumpers, Connectors, and LED Indicators

Jumpers

Jumper	Description	Default
JBT1	CMOS Clear	Open (Normal)
JPL1	LAN3/4/5/6 Enable/Disable	Pins 1-2 (Enabled)
JPME2	ME Recovery	Pins 1-2 (Normal)
JPTG1	LAN1/2 (10 G Base-T) Enable/Disable	Pins 1-2 (Enabled)

Connectors

Connector	Description
BT1	Onboard CMOS Battery
COM1	COM Header
FAN1 - FAN4, FANA	CPU/System Fan Headers
IPMI_LAN	Dedicated IPMI LAN Port
JD1	Speaker (Pins 1-4: Speaker)
JF1	Front Control Panel Header
JIPMB1	4-pin External I ² C Header
JL1	Chassis Intrusion Header
JLANLED1	LAN LED Activity Connector for the Front Panel (for LN4F/LN6TF only)
JLANLED2	LAN LED Activity Connector for the Front Panel (for LN6TF only)
JNVI ² C1	NVMe I ² C Header
JNVME0/1	PCIe 4.0 x8 Slimline SAS Connectors
JPH1	4-pin Power Connector for HDD use
JPI ² C1	Power System Management Bus (SMB) I ² C Header
JPV1	8-pin 12 V CPU Power Connector; Or 12 V DC Input Power Connector (without JPWR1 plugged)
JPWR1	24-pin ATX Power Connector
JRK1	Intel® RAID Key Header
JS1	Intel PCH SATA Ports (I-SATA0-3 with RAID 0, 1, 5, 10)
JS2	Intel PCH SATA Ports (I-SATA4-7 with RAID 0, 1, 5, 10)
JSD1, JSD2	SATA DOM Power Connectors
JSTBY1	Standby Power Header
JUIDB1	Unit Identifier (UID) Switch
LAN1/2	10 GbE LAN (RJ45) Ports (LAN1/LAN2 for X12SPM-TF/-LN6TF Only)
LAN3 - LAN6	1 GbE LAN (RJ45) Ports (LAN3 - 6 for -LN4F/-LN6TF Only)
M.2-H	M.2 M-Key 2280/22110 Slot (supports PCIe 3.0 x4/SATA3)
SLOT4	CPU PCIe 4.0 x16
SLOT6	CPU PCIe 4.0 x16
SLOT7	CPU PCIe 4.0 x8
S-SATA0, S-SATA1	SATA 3.0 Ports with SATA DOM Power
S-SGPIO1	Serial Link General Purpose I/O Connection Header
TPM1/PORT80	Trusted Platform Module (TPM)/Port 80 Connector
USB0/1	Back Panel Universal Serial Bus (USB) 2.0 Ports
USB2/3, USB4/5	Front Accessible USB 2.0 Headers
USB6/7	Back Panel USB 3.2 Gen 1 Ports
USB8/9	Front Accessible USB 3.2 Gen 1 Header
USB10	USB 3.2 Gen 1 Type-A Header
VGA	VGA Port

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

LED Indicators

LED	Description	Status
LEDM1	BMC Heartbeat LED	Solid Green: BMC Normal
LEDPWR	Power on LED	Solid Green: On
UID-LED1	Unit Identifier (UID) LED	Solid Blue: Unit Identified

CPU Support

The X12SPM-TF/-LN4F/-LN6TF supports the 3rd Generation Intel® Xeon Scalable Processor series (Socket P+ (LGA4189)) with up to 40 cores and a thermal design power (TDP) of up to 270 W.

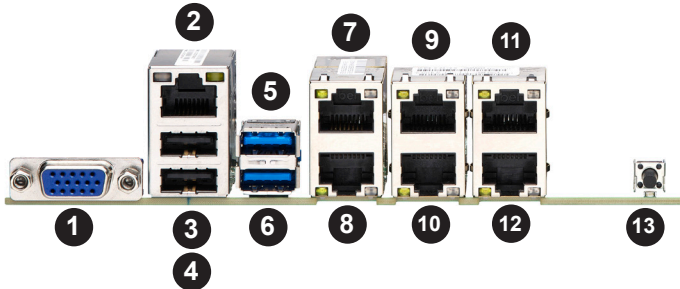
Memory Support and Installation

The X12SPM-TF/-LN4F/-LN6TF supports up to 2048 GB of ECC RDIMM/LRDIMM/LRDIMM (3DS) with speeds of up to 3200 MT/s in eight slots.

- It's recommended to use DDR4 memory of the same type, size and speed. Mixed DIMM speeds can be installed. However, all DIMMs will run at the speed of the slowest DIMM.
- The motherboard will not support odd-numbered modules except for a single DIMM module necessary for board operation. For more information, refer to https://www.supermicro.com/support/resources/memory/X12_memory_config_guide.pdf.
- To achieve the best memory performance, a balanced memory population is recommended.
- Memory capacity and frequency is CPU dependent.

Number of DIMMs	Memory Population Sequence
1	DIMMA1
2	DIMMA1 / DIMME1
4	DIMMA1 / DIMME1 / DIMMC1 / DIMMG1
6	DIMMA1 / DIMME1 / DIMMC1 / DIMMG1 / DIMMB1 / DIMMF1
8	DIMMA1 / DIMME1 / DIMMC1 / DIMMG1 / DIMMB1 / DIMMF1 / DIMMD1 / DIMMH1

Back Panel I/O Connectors



#	Description	#	Description	#	Description
1	VGA	6	USB6 (3.2 Gen 1)	11	LAN6 (-LN4F/-LN6TF only)
2	Dedicated IPMI LAN	7	LAN2 (-LN6TF/-TF only)	12	LAN5 (-LN4F/-LN6TF only)
3	USB1	8	LAN1 (-LN6TF/-TF only)	13	UID Switch
4	USB0	9	LAN4 (-LN4F/-LN6TF only)		
5	USB7 (3.2 Gen 1)	10	LAN3 (-LN4F/-LN6TF only)		

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

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.

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