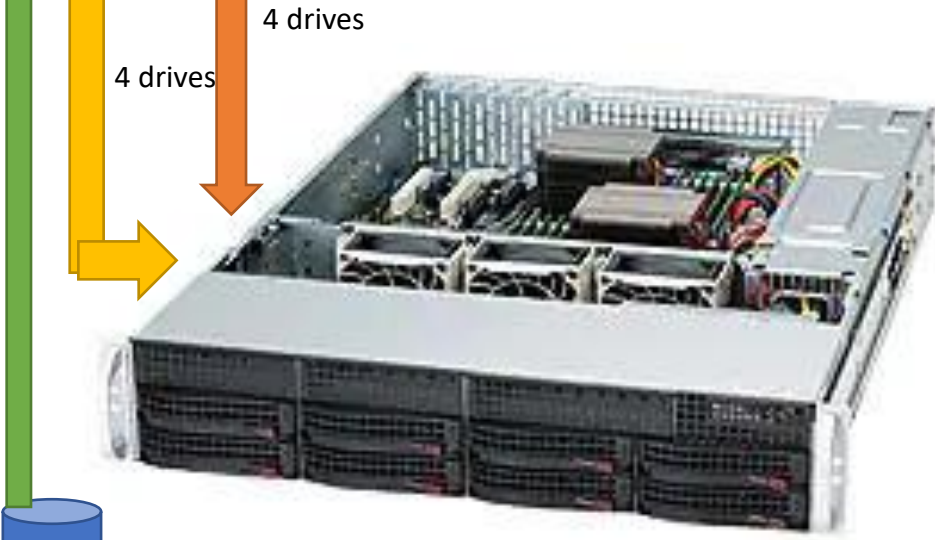


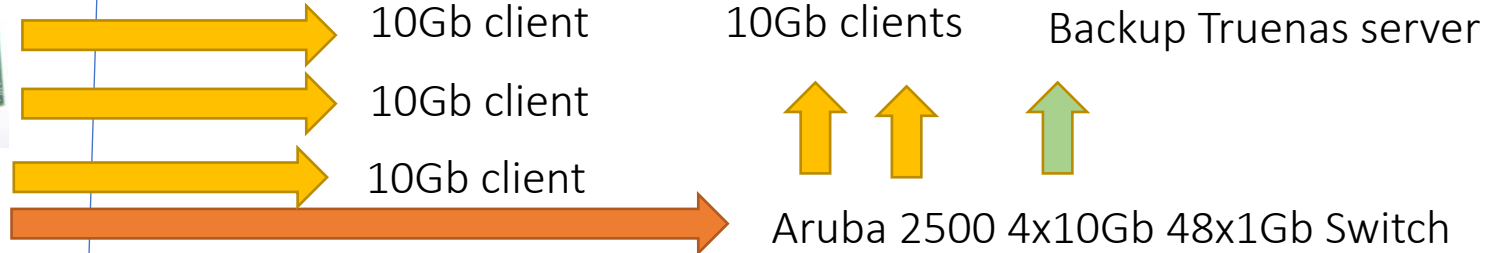
Mellanox X2



Dell H310 SAS/SATA HBA (Raid) controller



Boot SSD



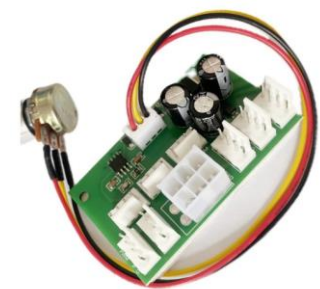
Supermicro [CSE-826E16-R1200LPB](#) 2U Server Chassis 2x1200W
12x3.5 [BPN-SAS2-826EL1](#)

Uses a single Mini-SAS connector to drive 12 drives with expander



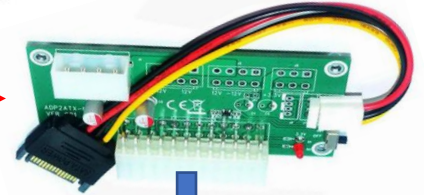
Single molex power connector to "press power button"

[Computer Case Miner Fan Speed Controller 8-channel Fan Hub Pwm High-power Violent Fan Controller Fan Speed Governor - Pc Hardware Cables & Adapters - AliExpress](#)



Control all chassis fans with pot

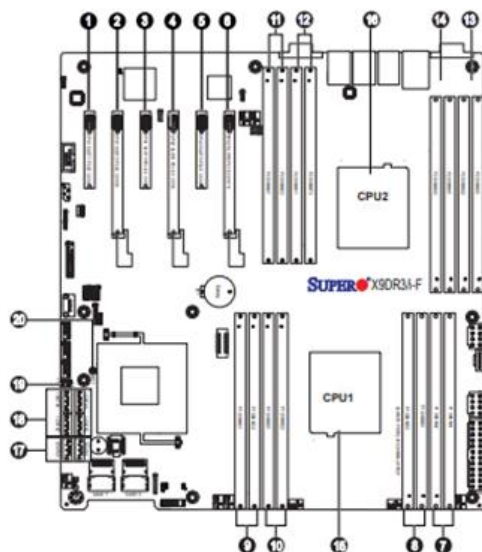
[Pc Desktop Atx 24pin Dual Psu Power Supply Sync Starter Extender Cable For Bitcoin Miner Rig - Pc Hardware Cables & Adapters - AliExpress](#)



Both chassis turn on with single power

Chassis Supply

Board Layout



No.	Description
1	CPU1 Slot1 PCI-E 3.0 x8
2	CPU1 Slot2 PCI-E 3.0 x16
3	CPU1 Slot3 PCI-E 3.0 x8
4	CPU2 Slot4 PCI-E 3.0 x16
5	CPU2 Slot5 PCI-E 3.0 x8
6	CPU2 Slot6 PCI-E 3.0 x16
7	DIMMA1 (Blue)/DIMMA2 slot
8	DIMMB1 (Blue)/DIMMB2 slot
9	DIMMC1 (Blue)/DIMMC2 slot
10	DIMMD1 (Blue)/DIMMD2 slot
11	DIMME1 (Blue)/DIMME2 slot
12	DIMMF1 (Blue)/DIMMF2 slot
13	DIMMG1 (Blue)/DIMMG2 slot
14	DIMMH1 (Blue)/DIMMH2 slot
15	CPU1 (Install CP1 first)
16	CPU2
17	(I)-SATA 0/1 Intel SB SATA 3.0 Connectors 0/1 (Color: White)
18	(I)-SATA 2/5 Intel SB SATA 2.0 Connectors 2/4 (Color: Black)
19	JBT1 = Clear CMOS
20	JSD1 = SATA Device Power Connector

MEMORY

Processors and their Corresponding Memory Modules								
CPU#	Corresponding DIMM Modules							
CPU1	P1-A1	P1-B1	P1-C1	P1-D1	P1-A2	P1-B2	P1-C2	P1-D2
CPU2	P2-E1	P2-F1	P2-G1	P2-H1	P2-E2	P2-F2	P2-G2	P2-H2

Processor and Memory Module Population	
Number of CPUs+DIMMs	CPU and Memory Population Configuration Table (*For memory to work proper, please install DIMMs in pairs)
1 CPU & 2 DIMMs	CPU1 P1-A1/P1-B1
1 CPU & 4 DIMMs	CPU1 P1-A1/P1-B1, P1-C1/P1-D1
1 CPU & 5-8 DIMMs	CPU1 P1-A1/P1-B1, P1-C1/P1-D1 + Any memory pairs in P1-A2/-B2/-C2/-D2 DIMM slots
2 CPUs & 4 DIMMs	CPU1 + CPU2 P1-A1/P1-B1, P2-E1/P2-F1
2 CPUs & 6 DIMMs	CPU1 + CPU2 P1-A1/P1-B1/P1-C1/P1-D1, P2-E1/P2-F1
2 CPUs & 8 DIMMs	CPU1 + CPU2 P1-A1/P1-B1/P1-C1/P1-D1, P2-E1/P2-F1/P2-G1/P2-H1
2 CPUs & 10-16 DIMMs	CPU1+CPU2 P1-A1/P1-B1/P1-C1/P1-D1, P2-E1/P2-F1/P2-G1/P2-H1 + Any memory pairs in P1, P2 DIMM slots
2 CPUs & 16 DIMMs	CPU1+CPU2 P1-A1/P1-B1/P1-C1/P1-D1, P2-E1/P2-F1/P2-G1/P2-H1 P1-A2/P1-B2/P1-C2/P1-D2, P2-E2/P2-F2/P2-G2/P2-H2

DIMM Module Population Configuration

For memory to work properly, follow the tables below for memory installation:

RDIMM Support POR on the E5-2600 Series Processor Platform				
DIMM Slots per Channel	DIMMs Populated per DDR Channel	RDIMM Type (RDIMM: Reg.= Registered)	POR Speeds (in MHz)	Ranks per DIMM (Any Combination)
1	1	Reg. ECC DDR3	800/1066/1333/1600	SR, DR, or QR
2	1	Reg. ECC DDR3	800/1066/1333/1600	SR, DR, or QR
2	2	Reg. ECC DDR3	800/1066/1333/1600	Mixing SR, DR, QR

Population Rules:

- Any combination of x4 and x8 RDIMMs with 1 Gb or 2 Gb DRAM Density are supported.
- Populate DIMMs starting with DIMM A1.
- When mixing QR with SR or DR on the same DDR channel, put the QR in DIMMA1 first.

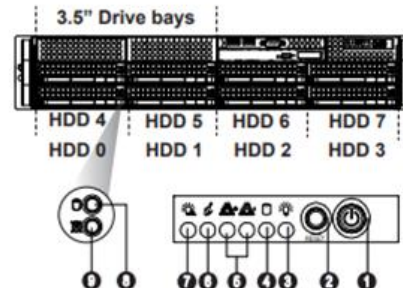
Note: For the memory modules to work properly, please install DIMM modules in pairs (with an even number of DIMMs installed).

Note: All channels in a system will run at the fastest common frequency.

Possible System Memory Allocation & Availability			
System Device	Size	Physical Memory Available (4 GB Total System Memory)	
Firmware Hub flash memory (System BIOS)	1 MB	3.99 GB	
Local APIC	4 KB	3.99 GB	
Area Reserved for the chipset	2 MB	3.99 GB	
I/O APIC (4 Kbytes)	4 KB	3.99 GB	
PCI Enumeration Area 1	256 MB	3.76 GB	
PCI Express (256 MB)	256 MB	3.51 GB	
PCI Enumeration Area 2 (if needed) - Aligned on 256-M boundary	512 MB	3.01 GB	
VGA Memory	16 MB	2.85 GB	
TSEG	1 MB	2.84 GB	
Memory available for the OS & other applications		2.84 GB	

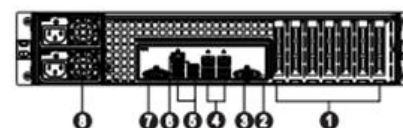
Note: For detailed information on memory support and updates, please refer to the SMC Recommended Memory List posted on our website at <http://www.supermicro.com/support/resources/mem.cfm>.

Front View & Interface



No.	Description
1	Power Button
2	Reset Button
3	Power LED
4	Device Activity LED
5	LAN1 LED & LAN2 LED
6	Information LED
7	Power Fail LED
8	Hard Drive Signal
9	Hard Drive Fail

Rear View

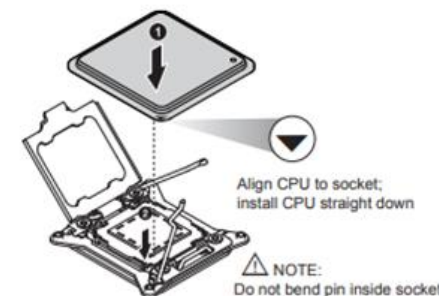


No.	Description	No.	Description
1	PCI Expansion Slots	5	USB 0/1/2/3 Ports
2	UID Button	6	Dedicated LAN for IPMI
3	VGA Port	7	COM Port
4	LAN 1/2/3/4 Ports	8	Redundant Power Supply Module

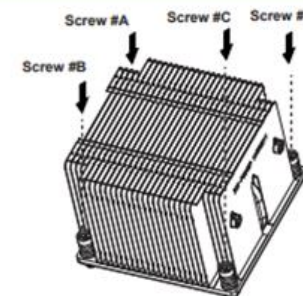
Beep Codes

BIOS Beep Codes		
Beep Code/LED	Message	Description
1 beep	Refresh	Circuits have been reset. (Ready to power up)
5 short beeps + 1 long beep	Memory	No memory detected
5 long beeps + 2 short beeps	Display memory read/write status	Video adapter missing or with faulty memory
1 continuous beep	System	System overheat

CPU Installation



Heatsink Installation



- Place heatsink on top of installed CPU
- Line up the four screws to socket
- Push down heatsink and screw down as shown (cross pattern, in order: A, C, B, D)
- NOTE:** Only use 6-8 lb/f of torque; otherwise, hand-tighten each screw, to avoid damaging the system

Caution

SAFETY INFORMATION
IMPORTANT: See installation instructions and safety warning before connecting system to power supply.
http://www.supermicro.com/about/policies/safety_information.cfm

WARNING:
 To reduce risk of electric shock/damage to equipment, disconnect power from server by disconnecting all power cords from electrical outlets.
 If any CPU socket empty, install protective plastic CPU cap

CAUTION:
 Always be sure all power supplies for this system have the same power output. If mixed power supplies are installed, the system will not operate.

For more information go to:
<http://www.supermicro.com/support>



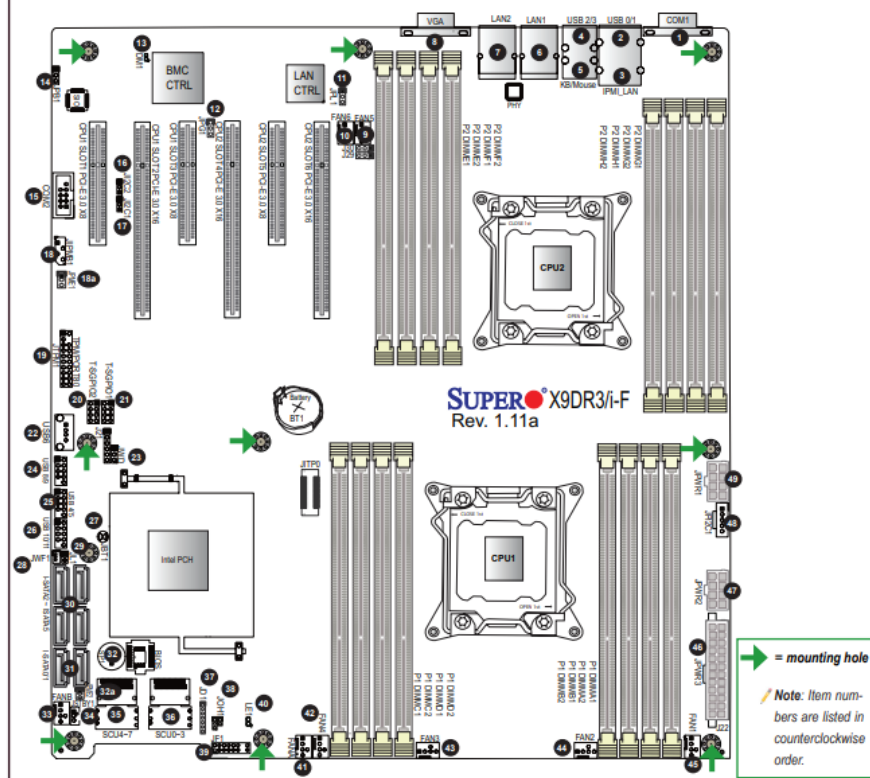
CONTACT INFORMATION

- 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

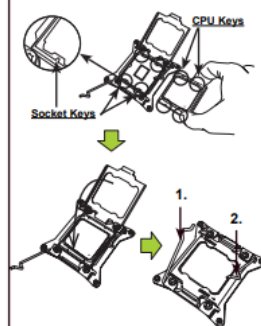
PACKAGE CONTENTS (Applies to single-pack only)

- One (1) Supermicro Motherboard
- Two (2) Serial ATA Cables
- One (1) I/O Shield
- Two (2) I-Pass to Serial ATA Cables (X9DR3-F)
- One (1) I-Pass to Serial ATA Cable (X9DRi-F)

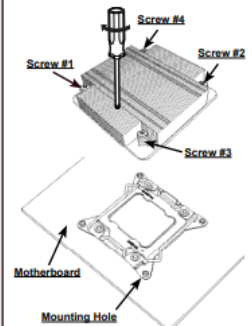
Motherboard Layout and Features



CPU Installation



Heatsink Installation



JF1 Header Pins

Ground	20	19	NMI
X	○	○	X
Power LED	○	○	Vcc
HDD LED	○	○	Vcc
NIC1 LED	○	○	Vcc
NIC2 LED	○	○	Vcc
OH/Fan Fail LED	○	○	Vcc
PWR Fail LED	○	○	Vcc
Ground	○	○	Reset
Ground	○	○	PWR
	2	1	

Reset Button
Power Button

Jumpers, Connectors and LED Indicators

Jumpers

Jumper	Item #	Description	Default
JBT1	27	Clear CMOS	None
JPB1	14	BMC Enabled	Pins 1-2 (Enabled)
JPG1	12	VGA Enabled	Pins 1-2 (Enabled)
JPL1	11	GLAN1/GLAN2 Enable	Pins 1-2 (Enabled)
JPME1	18a	Management Engine (ME) Recovery Mode	Pins 1-2 (Normal)
JPME2	32a	Management Engine (ME) Manufacture Mode	Pins 1-2 (Normal)
JWD	23	Watch Dog	Pins 1-2 (Reset)

Connectors

Connector	Item #	Description
COM1, COM2	1, 15	Back Panel Com Port1 / Front Accessible COM2 Header
Fan 1-3	45, 44, 43	CPU/System Fan Headers
Fan 4-6	42, 9, 10	CPU/System Fan Headers
FanA, FanB	41, 33	CPU/System Fan Headers
I-SATA 0/1	31	Intel SB SATA 3.0 Connectors 0/1
I-SATA 2-5	30	Intel SB SATA 2.0 Connectors 2-5
J22 (JPWR3)	46	ATX 24-Pin Power Connector
JD1	37	Speaker/Power LED Indicator
JF1	39	Front Panel Control Header
JFC1/JFC2	17, 16	SMBus I/C Header
JPMB1	18	4-Pin External BMC I/C Header (for IPMI card)
JL1	29	Chassis Intrusion
JOH1	38	Overheat LED Indicator
JPFC1	48	Power Supply SMBus I/C Header
JPWR1/2	49, 47	12V 8-Pin Power Connectors
JSTBY1	34	Standby Header
JTPM1	19	TPM (Trusted Platform Module) Port 80
JWF1	28	SATA DOM (Disk on Module) Power Connector
LAN1, LAN2	6, 7	G-bit Ethernet Ports 1/2
(IPMI) LAN	3	IPMI Dedicated LAN
SCU 0-3	36	SCU Connectors 0-3
SCU 4-7	35	SCU Connectors 4-7 (for X9DR3-F only)
SP1	32	Onboard Buzzer (Internal Speaker)
T-SGPIO 1, 2	21, 20	Serial Link General Purpose I/O Headers
BP USB 0/1, USB 2/3	2, 4	Back Panel USB 0/1, 2/3
USB 4/5, USB 6,	25, 22	Front Panel Accessible USB Connections
USB 8/9, USB 10/11	24, 26	Front Panel Accessible USB Connections
VGA	8	Back Panel VGA Port

LED Indicators

LED	Item #	Description	Color/State	Status
DM1	13	BMC Heartbeat LED	Green: Blinking	BMC Normal
LE1	40	Standby PWR LED	Green: On	SB Power On

Memory Support

This motherboard supports up to 1 TB of Load Reduced (LRDIMM), 512 GB of Registered (RDIMM) or 128 GB of Unbuffered (UDIMM) ECC/Non-ECC DDR3 800/1066/1333/1600/1866 MHz 240-pin 4-channel memory modules 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
CPU2	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 P1-DIMMA1/P1-DIMMB1
1 CPU & 4 DIMMs	CPU1 P1-DIMMA1/P1-DIMMB1, P1-DIMMC1/P1-DIMMD1
1 CPU & 8 DIMMs	CPU1 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 P1-DIMMA1/P1-DIMMB1, P2-DIMME1/P2-DIMMF1
2 CPUs & 6 DIMMs	CPU1 + CPU2 P1-DIMMA1/P1-DIMMB1/P1-DIMMC1/P1-DIMMD1, P2-DIMME1/P2-DIMMF1
2 CPUs & 8 DIMMs	CPU1 + CPU2 P1-DIMMA1/P1-DIMMB1/P1-DIMMC1/P1-DIMMD1, P2-DIMME1/P2-DIMMF1/P2-DIMMG1/P2-DIMMH1
2 CPUs & 10-16 DIMMs	CPU1/CPU2 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 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

