㈜넥스코시스템

AI Deep Learning System

DNG-4410A

DNT-4410P

Overview

넥스코시스템의 AI Deep Learning System DNG-4410A / DNT-4410P 시스템은 4U Rack & Tower 타입 타워형과 RACK마운트 모두 사용가능 시스템으로 Dual Intel Xeon E5 2600시리즈 CPU를 지원하며 최대 2TB의 시스템 메모리지원과 3.5″, 2.5″ DISKE를 지원하여 다양한 환경에서 사용가능한 시스템 입니다.

AI Deep Learning에 필요한 NVIDIA GPU를 1~4EA까지 장착이 가능한 시스템 입니다.

DNG-4410A / DNT-4410P

1. Dual socket R3 (LGA 2011) supports Intel® Xeon® processor E5-2600 v4†/ v3 family; QPI up to 9.6GT/s
2. Up to 2TB† ECC 3DS LRDIMM , up to DDR4- 2400†MHz ; 16 DIMM slots
3. 4 PCI-E 3.0 x16 slots
   2 PCI-E 3.0 x8 (1 in x16) slots
   support Thunderbolt 2.0 AOC,
   1 PCI-E 2.0 x4 (in x8) slot; Up to 4 GPU
4. I/O ports: 1 VGA, 2 COM, 2 GbE, 10 USB 2.0, & 1 IPMI Dedicated LAN
5. 8 Hot-swap 3.5", 3 Fixed 5.25" and 1 Fixed 3.5" Drive Bays
6. 4 Heavy Duty Fans, 2 Exhaust Fans, and 2 Active Heatsink with Optimal Fan Speed Control
7. 2000W High efficiency (96%) Redundant PSU; Titanium Level
8. Tower or Rackmount
9. GPU Kit for passive GPU support

- 4GPU Support

 NVIDIA GPUs
▸ NVIDIA DIGITS software: Interactive Deep Learning GPU Training System
▸ Pre-installed Ubuntu 14.04.2
▸ Pre-installed deep learning frameworks – Caffe, Torch, Theano, and BIDMach
▸ NVIDIA CUDA Deep Learning Neural Network library (cuDNN) v2
▸ NVIDIA CUDA Toolkit 8.0

4GPU SYSTEM / 2CPU

1. Processors

supports dual Intel E5-2600 v3/v4 series processors in LGA 2011 sockets (Socket R3). Each processor supports dual Intel QuickPath Interconnect (QPI) links of up to 9.6 GT/s per QPI. Refer to the motherboard description pages on our web site for a complete listing of supported processors

2. Memory

The motherboard has 16 DIMM slots that can support up to 2 TB of Load Reduced (LRDIMM) or 1.5 TB of Registered (RDIMM) DDR4 ECC, 288-pin, at 2400/2133/1866/1600/1333 MHz. DIMMs up to 64 GB at 1.2V. See Chapter 5 for details.
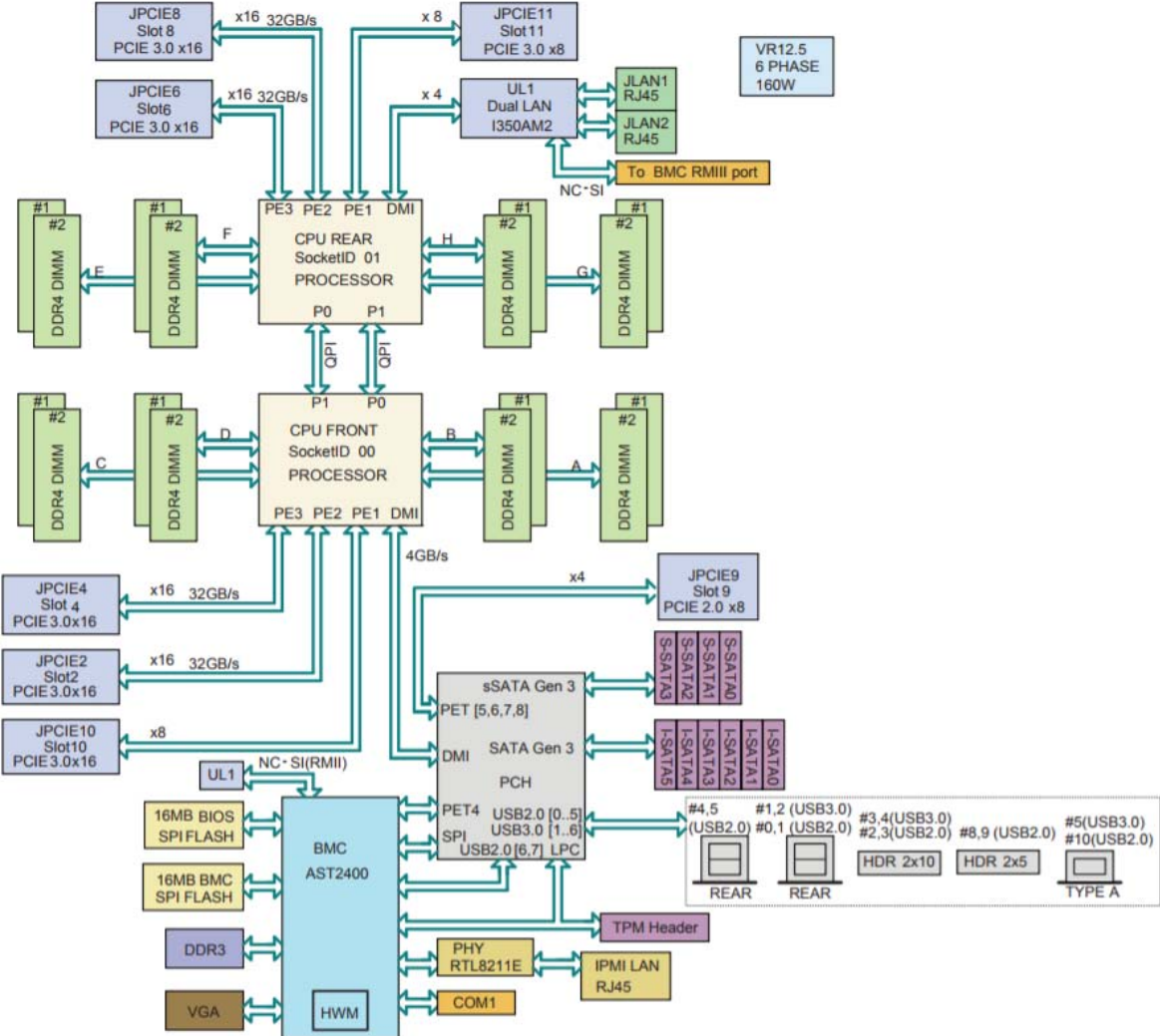
3. Serial ATA

The motherboard supports a ten SATA 3.0 ports. That is four I-SATA, two more I-SATA with SuperDOM support, and four S-SATA. RAID 0, 1, 5 and 10 can beenabled.
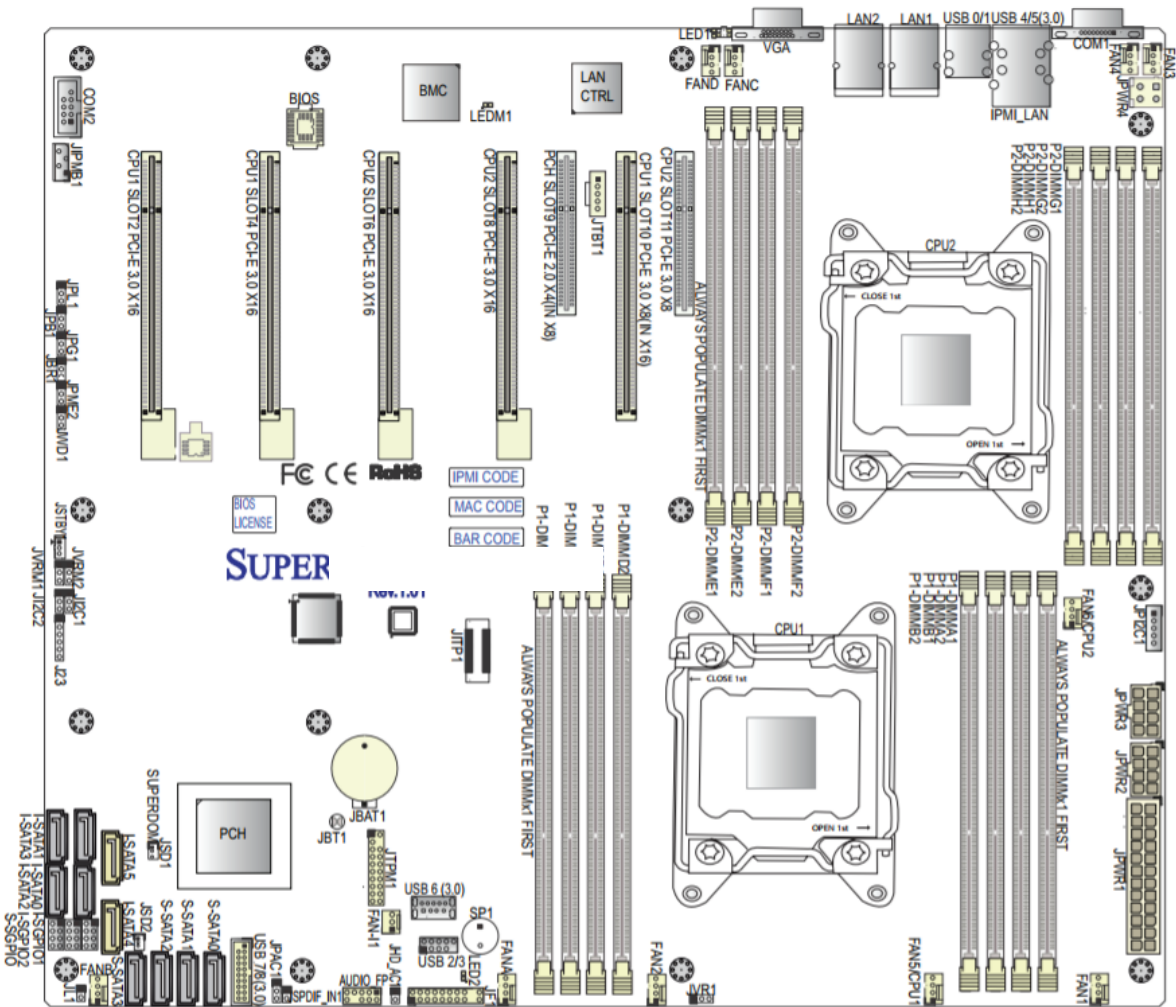
4. PCI Expansion Slots

The serverboard has four PCI-E 3.0 x16, two PCI-E 3.0 x8 (one in x16) and one PCI-E 2.0 x4 (in x8) slots for a total of seven PCI expansion slots.

DNG-4410A / DNT-4410P System Block Diagram

Motherboard Details

5. IPMI

Intelligent Platform Management Interface (IPMI) 2.0 is a hardware-level interface specification that provides remote access, monitoring and administration for Supermicro servers. IPMI enables administrators to view a server hardware status remotely, receive an alarm automatically if a failure occurs, and power cycle a system that is non-responsive.

6. System Power

The chassis includes a 2000 W high-efficiency, hoto-plug, redundant (1+1) power supply consisting of two power supply modules. In the unlikely event a power supply module fails, replacement is simple.

7. Storage Drives

The chassis features eight drive bays for SATA drives. These drives are hot-swappable. Once set up correctly, these drives can be removed without powering down the workstation. The SC747B chassis also provides three 5.25″ peripheral drive bays for floppy drives, DVD/CD drives, or additional hard drives

8. Cooling System

The chassis accepts four system fans and two rear exhaust fans. System fans are powered from the serverboard. These fans are 4U high and are

powered by 4-pin connectors.

System Interface
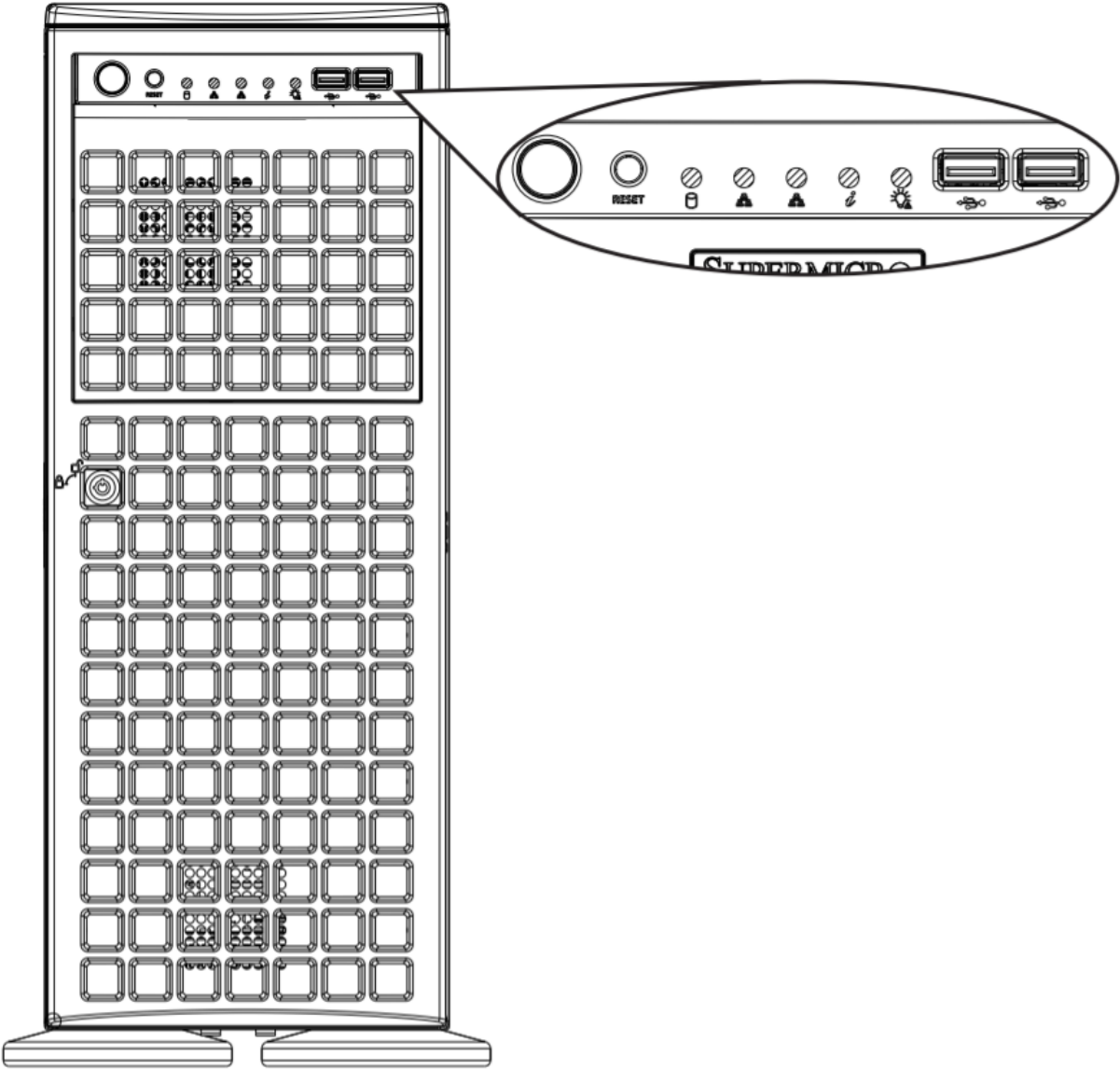
1. Control Panel Buttons

Power

The main power switch applies or removes primary power from the power supply to the server but maintains standby power. To perform most maintenance tasks, unplug the system to remove all power.

Reset

The reset button is used to reboot the system.

Power LDE

Indicates power is being supplied to the system power supply units.This LED is illuminated when the system is operating normally.

HDD

Indicates activity on the hard disk drive when flashing.

NIC2

Indicates network activity on GLAN2 when flashing.

NIC1

Indicates network activity on GLAN1 when flashing.

Information LED

Alerts operator to several states, as noted in the table below.

Information LED	
Status	**Description**
Continuously on and red	An overheat condition has occured. (This may be caused by cable congestion.)
Blinking red (1Hz)	Fan failure, check for an inoperative fan.
Blinking red (0.25Hz)	Power failure, check for a non-operational power supply.
Solid blue	Local UID has been activated. Use this function to locate the server in a rack mount environment.
Blinking blue	Remote UID is on. Use this function to identify the server from a remote location.

Power Fail

Indicates a power supply module has failed.

|	LED Color	Blinking Pattern	Behavior for Device
Activity LED	Blue	Solid On	SAS/NVMe drive installed
	Blue	Blinking	I/O activity
Status LED	Red	Solid On	Failure of drive with RSTe support
	Red	Blinking at 1 Hz	Rebuild drive with RSTe support
	Red	Blinking with two blinks and one stop at 1 Hz	Hot spare for drive with RSTe support
	Red	On for five seconds, then off	Power on for drive with RSTe support
	Red	Blinking at 4 Hz	Identify drive with RSTe support

Input/Output Ports
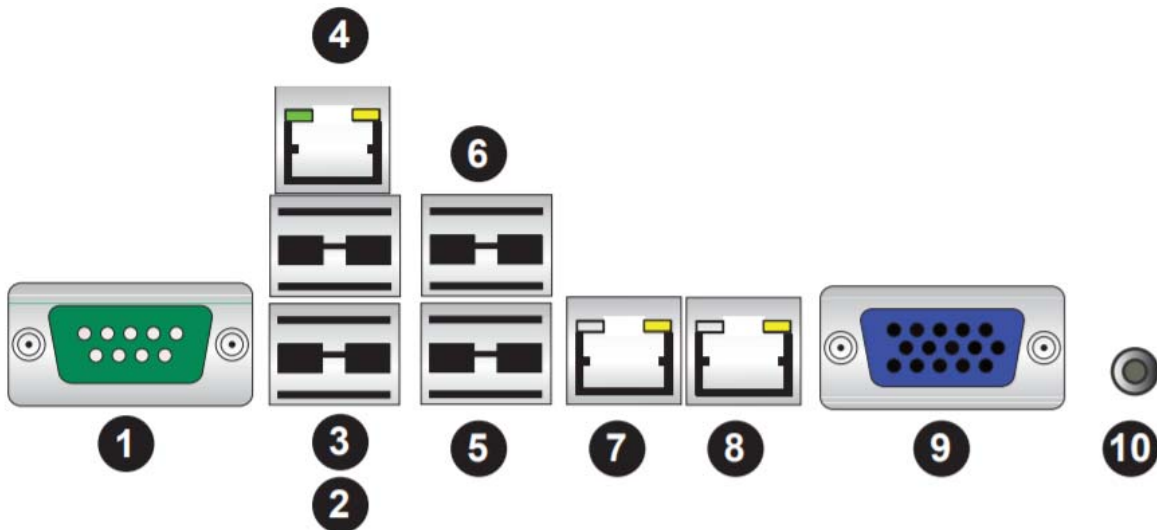
Figure 5-1. Rear I/O Ports

Rear I/O Ports	
1. COM1 Port	2. USB 3.0 Port 4
3. USB 3.0 Port 5	4. IPMI Dedicated LAN
5. USB 2.0 Port 0	6. USB 2.0 Port 1
7. Gigabit LAN 1	8. Gigabit LAN 2
9. VGA (blue)	10. UID LED