

(주)넥스코시스템

AI Deep Learning System

DNT-4810P

DNG-4810A

Overview

넥스코시스템의 AI Deep Learning System DNT-4810P / DNG-4810A 시스템은 4U Rack 타입의 시스템입니다 Dual Intel Xeon E5 2600시리즈 CPU를 지원하며 최대 3TB의 시스템메모리 장착이 가능합니다.

Deep Learning에 필요한 NVIDIA GPU를 1~10EA까지 장착이 가능하며 GPU간 GPUs under Single-Root complex RDMA P2P를 지원하는 시스템입니다.

10 GPU Products



DNT-4810P / DNG-4810A

- GPUs under Single-Root complex
 - Supports RDMA
1. Dual socket R3 (LGA 2011) supports Intel® Xeon® processor E5-2600 v4†/ v3 family; QPI up to 9.6GT/s
 2. Up to 3TB† ECC 3DS LRDIMM , up to DDR4- 2400†MHz ; 24x DIMM slots
 3. Expansion slots, Single Root Complex,
 - 11 PCI-E 3.0 x16 (FH, FL) slots
 - 1 PCI-E 3.0 x8 (in x16) slots
 4. 2 GbE LAN with Intel® i350
 5. 24 Hot-swap 2.5" drive bays
 6. 8 Hot-Swap 92mm cooling fans
 7. 2000W Redundant (2+2) Power Supplies; Titanium Level (96%+)

- 10GPU 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

10GPU SYSTEM / 2 CPU

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 24 DIMM slots that can support up to 3 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.

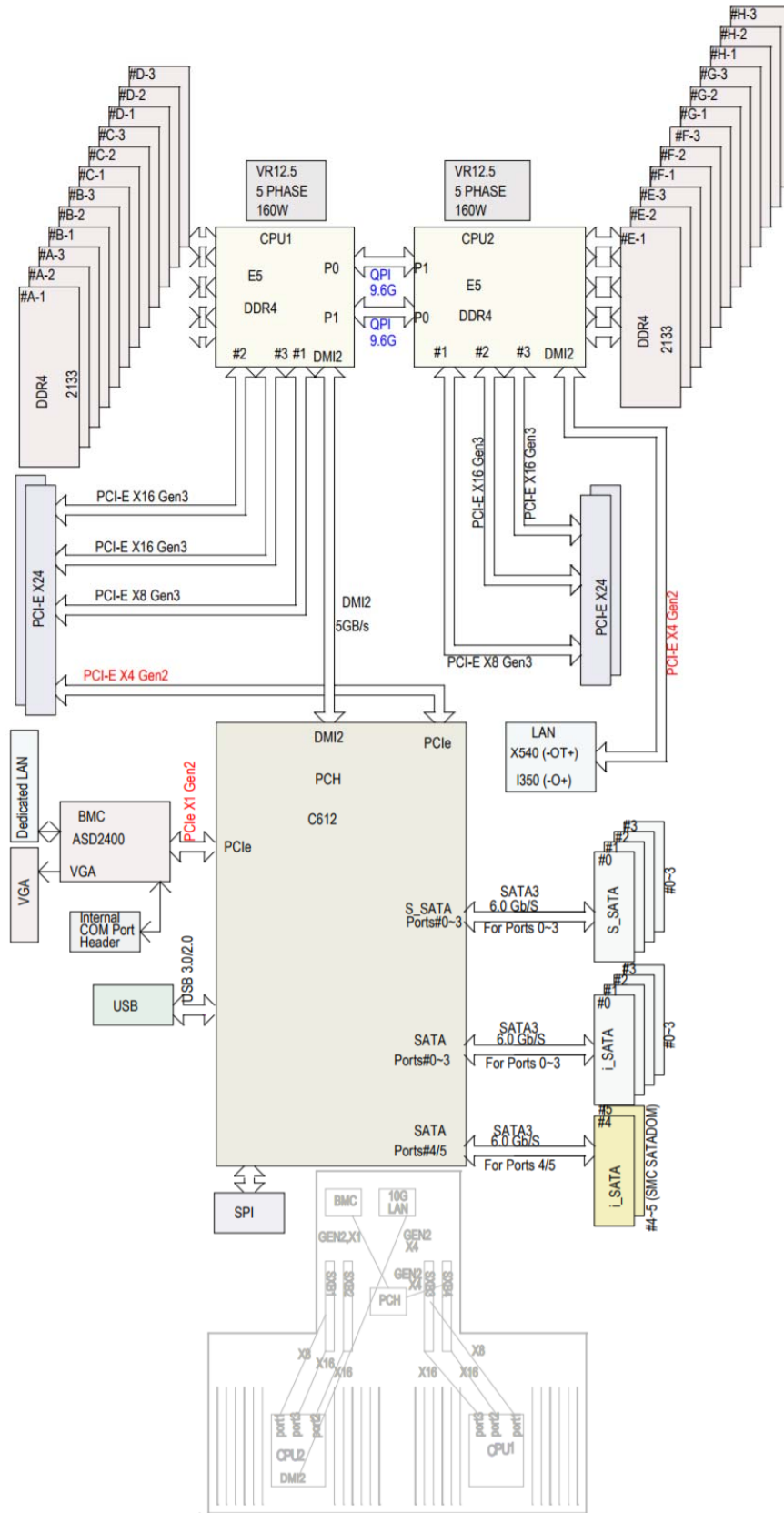
3. Serial ATA

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 be enabled.

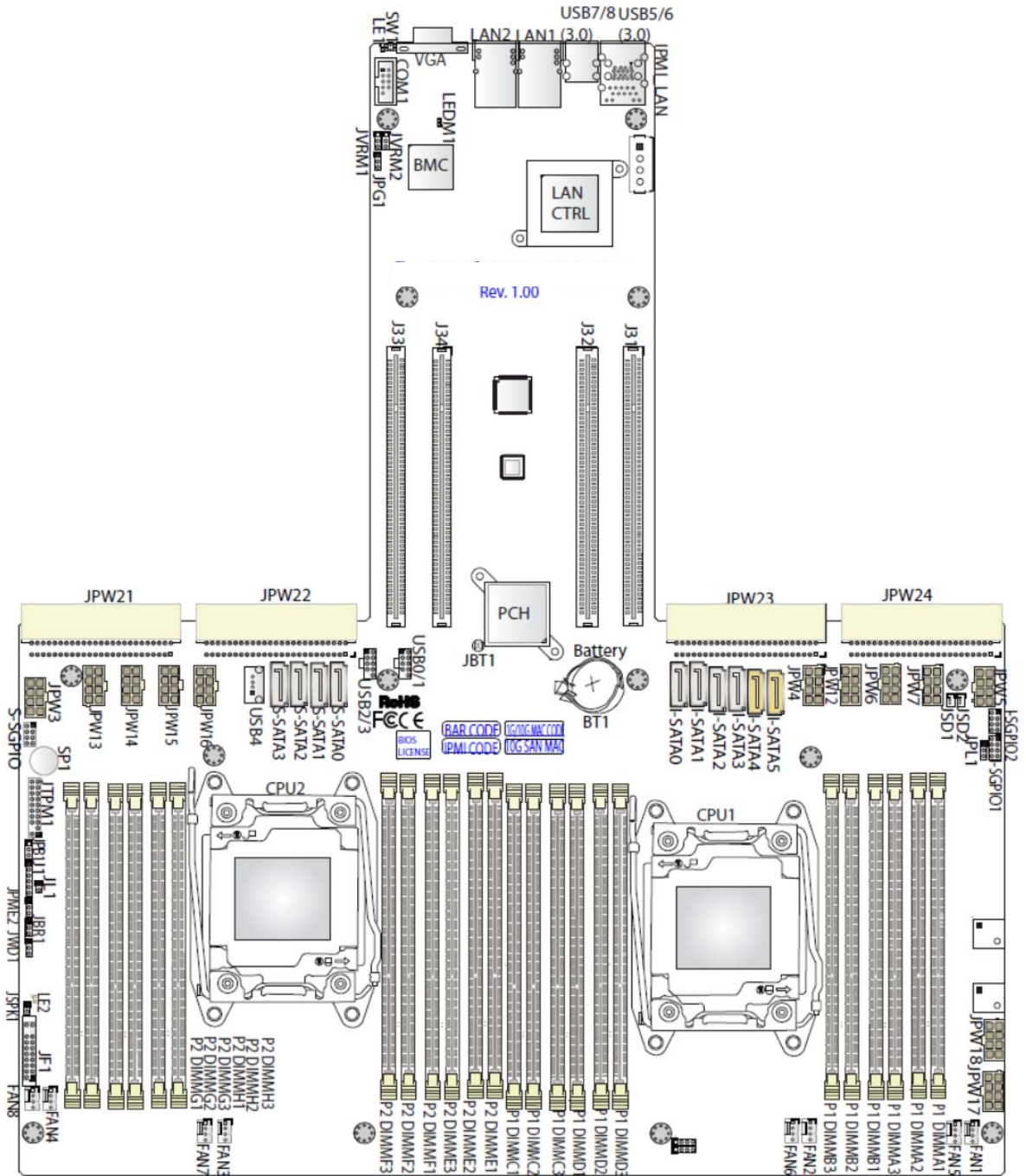
4. PCI Expansion Slots

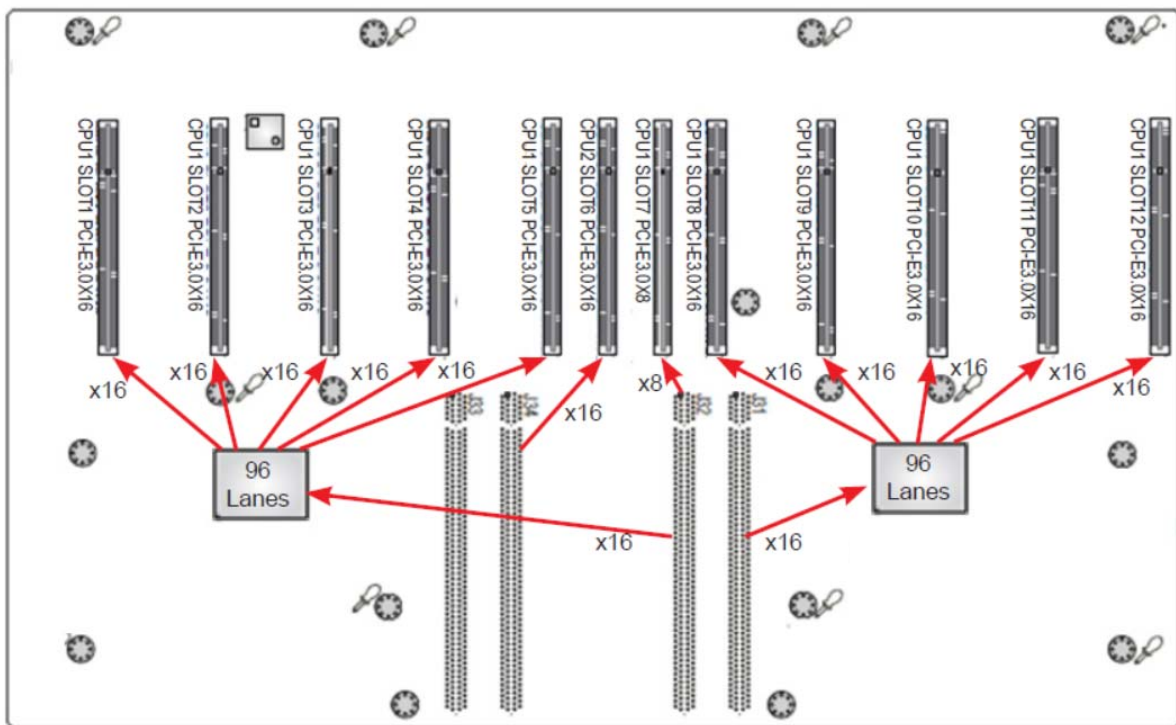
supports up to ten double-width GPUs with x16 full signal slots, or eight double width GPUs with three PCI-E 3.0 x16 and one PCI-E 3.0 x8 expansion cards The daughter boards are further described in Chapter 5. Note that both CPUs must be installed to enable use of all PCI-E slots.

DNT-4810P / DNG-4810A 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 features a 2+2 redundant power supply system composed of four hotplug, high efficiency power modules.

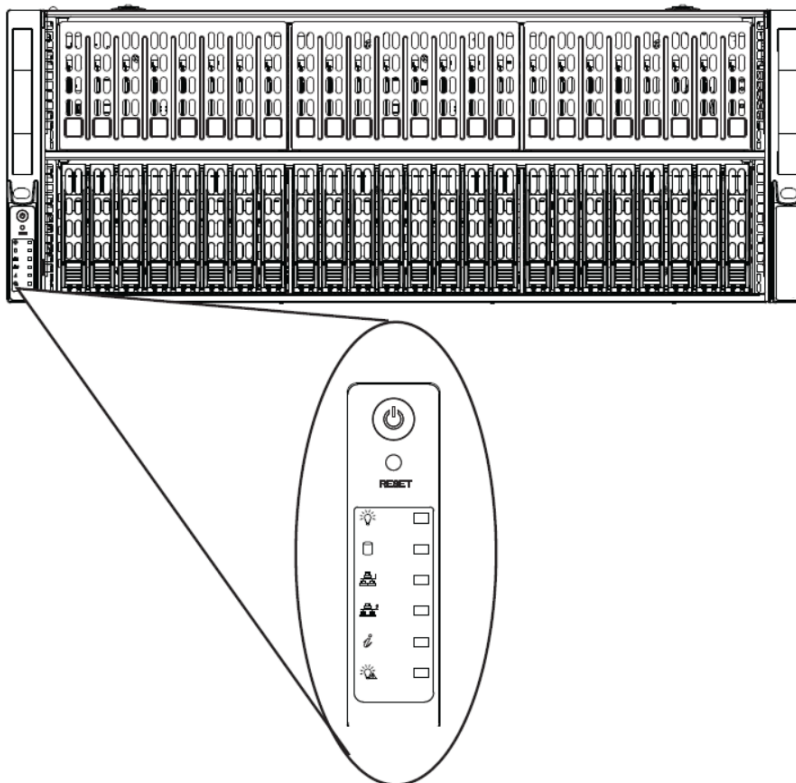
7. Storage Drives

The chassis includes twenty-four 2.5" drive bays, which house hot-swappable SATA drives (Option In 3.5" drive x3)

8. Cooling System

The chassis has an innovative cooling design that includes eight 9-cm heavy-duty fans. They offer status monitoring through IPM, dual cooling zones, fan speed control, and Pulse Width Modulation (PWM) control. In addition, an air shroud helps channel air over the motherboard and PCI slots for maximum cooling. The power supply modules also include a cooling fan. All chassis and power supply fans operate continuously

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 occurred. (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

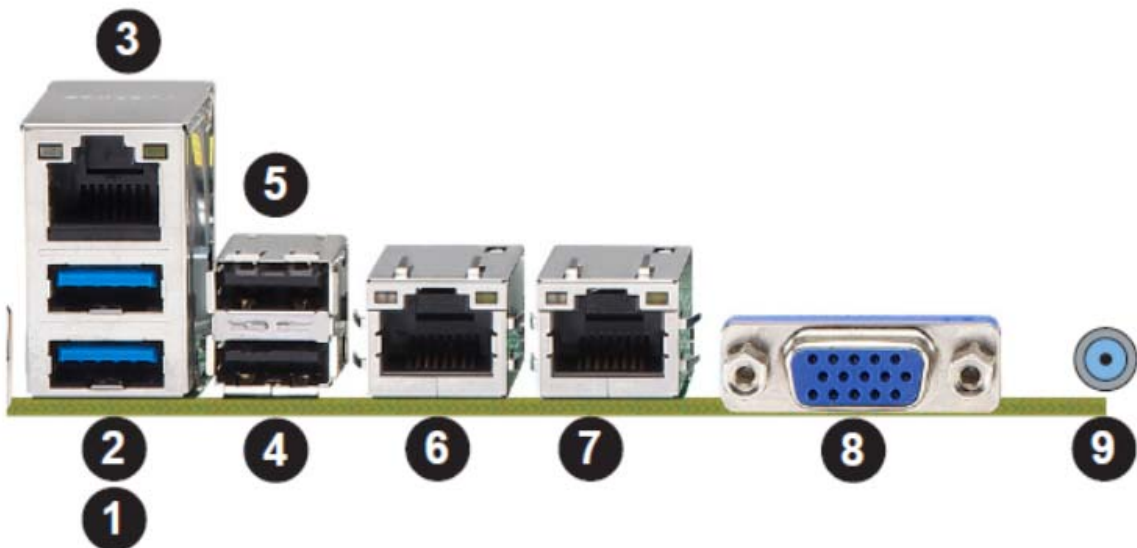


Figure 5-1. I/O Ports

| IO Ports | |
|-----------------------|---------------|
| 1. USB 3.0 Port 5 | 6. LAN Port 1 |
| 2. USB 3.0 Port 6 | 7. LAN Port 2 |
| 3. IPMI Dedicated LAN | 8. VGA Port |
| 4. USB 3.0 Port 7 | 9. UID Switch |
| 5. USB 3.0 Port 8 | |