



Telecom Datacenter Appliances

Innovative Platforms for Next Generation Network Infrastructure

HLM-1001 User Manual

Version: 1.0

Date of Release: 2018-09-26

Icon Descriptions

The icons are used in the manual to serve as an indication of interest topics or important messages. Below is a description of these icons:



Note: This check mark indicates that there is a note of interest and is something that you should pay special attention to while using the product.



Warning: This exclamation point indicates that there is a caution or warning and it is something that could damage your property or product.

Online Resources

The listed websites are links to the on-line product information and technical support.

Resources	URL
Lanner	http://www.lannerinc.com
Product Resource	http://www.lannerinc.com/download-center
RMA	http://eRMA.lannerinc.com

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Compliances and Certification

CE

This product has passed the CE test for environmental specifications. Test conditions for passing included the equipment being operated within an industrial enclosure. In order to protect the product from being damaged by ESD (Electrostatic Discharge) and EMI leakage, we strongly recommend the use of CE-compliant industrial enclosure products.

FCC Class A

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the

instruction manual, may cause harmful interference to radio communications. The operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

EMC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. The operation of this equipment in a residential area is likely to cause harmful interference in which case users will be required to correct the interference at their own expense.

Safety Guidelines

Follow these guidelines to ensure general safety:

- ▶ Keep the chassis area clear and dust-free during and after installation.
- ▶ Do not wear loose clothing or jewelry that could get caught in the chassis. Fasten your tie or scarf and roll up your sleeves.
- ▶ Wear safety glasses if you are working under any conditions that might be hazardous to your eyes.
- ▶ Do not perform any action that creates a potential hazard to people or makes the equipment unsafe.
- ▶ Disconnect all power by turning off the power and unplugging the power cord before installing or removing a chassis or working near power supplies
- ▶ Do not work alone if potentially hazardous conditions exist.
- ▶ Never assume that power is disconnected from a circuit; always check the circuit.

Lithium Battery Caution:

- ▶ Risk of Explosion if Battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.
- ▶ Installation only by a trained electrician or only by an electrically trained person who knows all English Installation and Device Specifications which are to be applied.
- ▶ Do not carry the handle of power supplies when moving to another place.
- ▶ The machine can only be used in a fixed location such as labs or computer facilities.

Operating Safety

- ▶ Electrical equipment generates heat. Ambient air temperature may not be adequate to cool equipment to acceptable operating temperatures without adequate circulation. Be sure that the room in which you choose to operate your system has adequate air circulation.
- ▶ Ensure that the chassis cover is secure. The chassis design allows cooling air to circulate effectively. An open chassis permits air leaks, which may interrupt and redirect the flow of cooling air from internal components.
- ▶ Electrostatic discharge (ESD) can damage equipment and impair electrical circuitry. ESD damage occurs when electronic components are improperly handled and can result in complete or intermittent failures. Be sure to follow ESD-prevention procedures when removing and replacing components to avoid these problems.
- ▶ Wear an ESD-preventive wrist strap, ensuring that it makes good skin contact. If no wrist strap is available, ground yourself by touching the metal part of the chassis.
- ▶ Periodically check the resistance value of the antistatic strap, which should be between 1 and 10 megohms (Mohms).

Consignes de sécurité

Suivez ces consignes pour assurer la sécurité générale :

- ▶ Laissez la zone du châssis propre et sans poussière pendant et après l'installation.
- ▶ Ne portez pas de vêtements amples ou de bijoux qui pourraient être pris dans le châssis. Attachez votre cravate ou écharpe et remontez vos manches.
- ▶ Portez des lunettes de sécurité pour protéger vos yeux.
- ▶ N'effectuez aucune action qui pourrait créer un danger pour d'autres ou rendre l'équipement dangereux.
- ▶ Coupez complètement l'alimentation en éteignant l'alimentation et en débranchant le cordon d'alimentation avant d'installer ou de retirer un châssis ou de travailler à proximité de sources d'alimentation.
- ▶ Ne travaillez pas seul si des conditions dangereuses sont présentes.
- ▶ Ne considérez jamais que l'alimentation est coupée d'un circuit, vérifiez toujours le circuit. Cet appareil génère, utilise et émet une énergie radiofréquence et, s'il n'est pas installé et utilisé conformément aux instructions des fournisseurs de composants sans fil, il risque de provoquer des interférences dans les communications radio.

Avertissement concernant la pile au lithium

- ▶ Risque d'explosion si la pile est remplacée par une autre d'un mauvais type.
- ▶ Jetez les piles usagées conformément aux instructions.
- ▶ L'installation doit être effectuée par un électricien formé ou une personne formée à l'électricité connaissant toutes les spécifications d'installation et d'appareil du produit.
- ▶ Ne transportez pas l'unité en la tenant par le câble d'alimentation lorsque vous déplacez l'appareil.
- ▶ La machine ne peut être utilisée qu'à un lieu fixe comme en laboratoire, salle d'ordinateurs ou salle de classe.

Sécurité de fonctionnement

L'équipement électrique génère de la chaleur. La température ambiante peut ne pas être adéquate pour refroidir l'équipement à une température de fonctionnement acceptable sans circulation adaptée. Vérifiez que votre site propose une circulation d'air adéquate.

- ▶ Vérifiez que le couvercle du châssis est bien fixé. La conception du châssis permet à l'air de refroidissement de bien circuler. Un châssis ouvert laisse l'air s'échapper, ce qui peut interrompre et rediriger le flux d'air frais destiné aux composants internes.
- ▶ Les décharges électrostatiques (ESD) peuvent endommager l'équipement et gêner les circuits électriques. Des dégâts d'ESD surviennent lorsque des composants électroniques sont mal manipulés et peuvent causer des pannes totales ou intermittentes. Suivez les procédures de prévention d'ESD lors du retrait et du remplacement de composants.
- ▶ Portez un bracelet anti-ESD et veillez à ce qu'il soit bien au contact de la peau. Si aucun bracelet n'est disponible, reliez votre corps à la terre en touchant la partie métallique du châssis.
- ▶ Vérifiez régulièrement la valeur de résistance du bracelet antistatique, qui doit être comprise entre 1 et 10 mégohms (Mohms).

Consignes de sécurité électrique

- ▶ Avant d'allumer l'appareil, reliez le câble de mise à la terre de l'équipement à la terre.
- ▶ Une bonne mise à la terre (connexion à la terre) est très importante pour protéger l'équipement contre les effets néfastes du bruit externe et réduire les risques d'électrocution en cas de foudre.
- ▶ Pour désinstaller l'équipement, débranchez le câble de mise à la terre après avoir éteint l'appareil.
- ▶ Un câble de mise à la terre est requis et la zone reliant les sections du conducteur doit faire plus de 4 mm² ou 10 AWG.

Revision History

Version	Date	Descriptions
1.0	2018/09/26	Official Release

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CHAPTER 1: PRODUCT OVERVIEW

The HLM-1001 supports up to 32-port 10GbE SFP with NIC Module which uses Intel XL710 Ethernet Controller. It can be installed into latest Lanner HTCA-6000 Series network appliances.

- ▶ Intel XL710 Ethernet Controller
- ▶ 32-port 10GbE SFP+ cage
- ▶ Compatible with HTCA-6600 and HTCA-6200

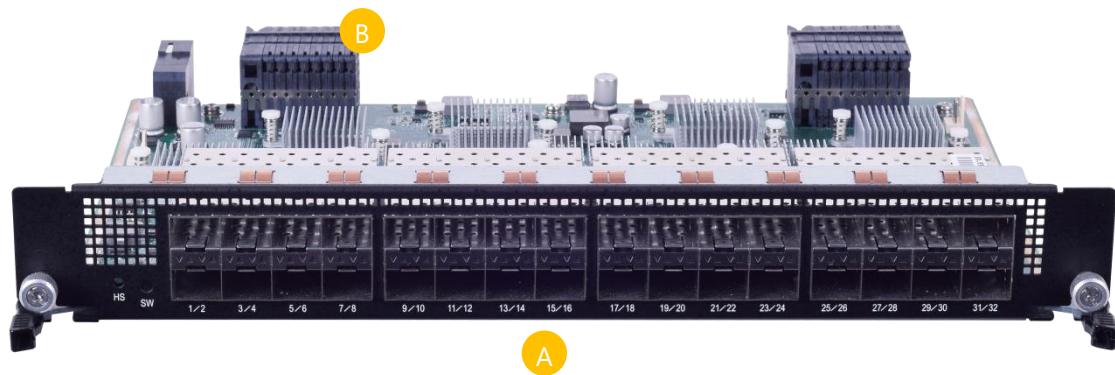
Ordering Information

SKU No.	Description
HLM-1001A	32-port 10GbE SFP+ Ethernet Network Interface blade for HTCA-6000 Series
HLM-1001B	24-port 10GbE SFP+ Ethernet Network Interface blade for HTCA-6000 Series

System Specifications

Model	HLM-1001	
Controller	Intel XL710 Ethernet Controller	
Interface	8x PCI-E 3.0 x8 (In two Molex 6x16 IMPACT Connectors) through by MB.	
Connector	32-port 10GbE SFP+ cage	
System Compatibility	HTCA-6600 and HTCA-6200	
Environmental Parameters	Temperature	0 to 40° C Operating -40 to 70° C Storage
	Humidity (RH)	5 to 90% Non-condensing
System Dimensions	(WxDxH) Weight	283.68 x 40 x 187.46 mm 2 kg
Certification	CE FCC	Class A Class A

I/O Overview

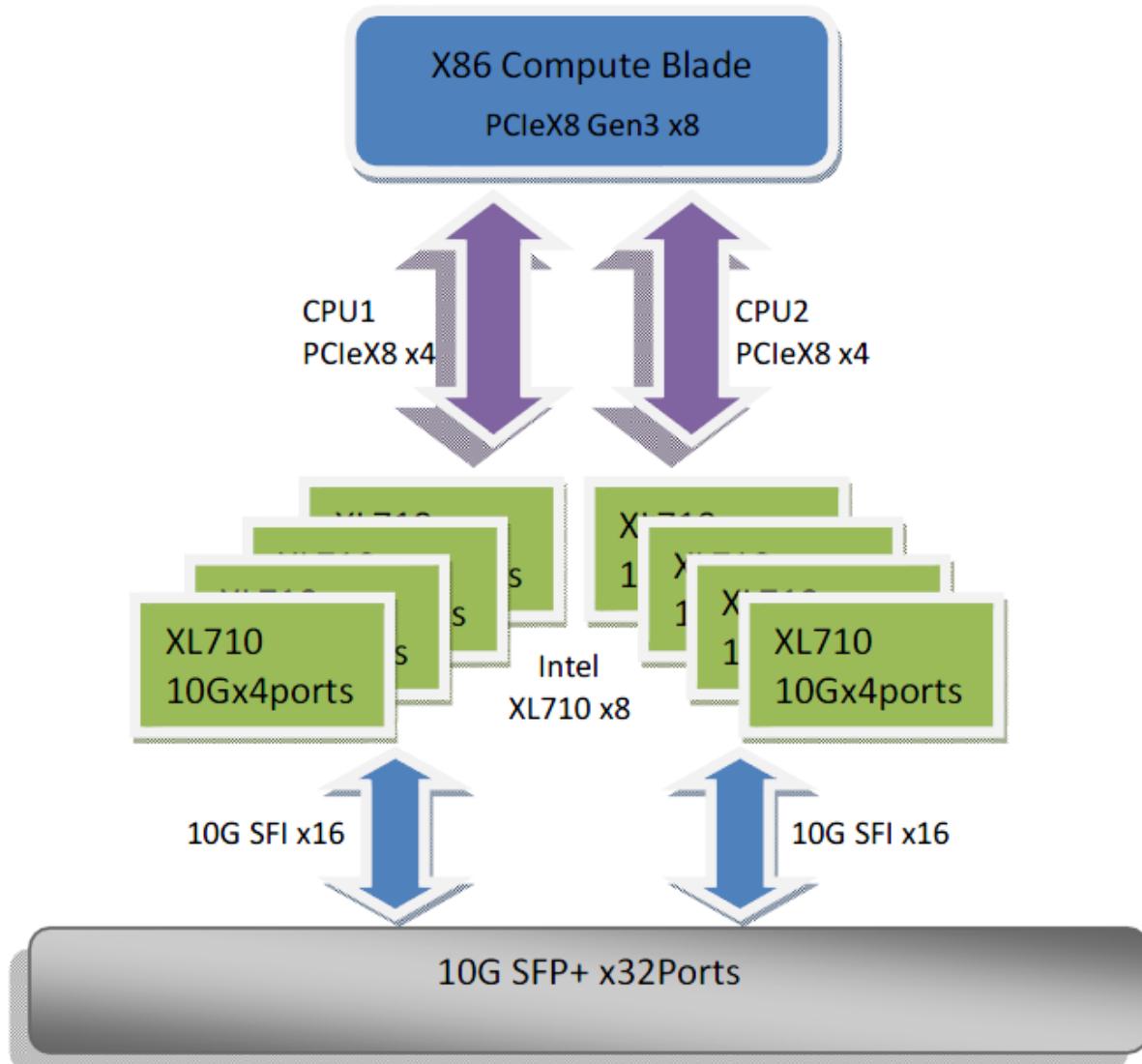


No.	Description
A	10GbE SFP+ Ports
B	PCIE 3.0 x8 Press-fit connector

CHAPTER 2: MOTHERBOARD INFORMATION

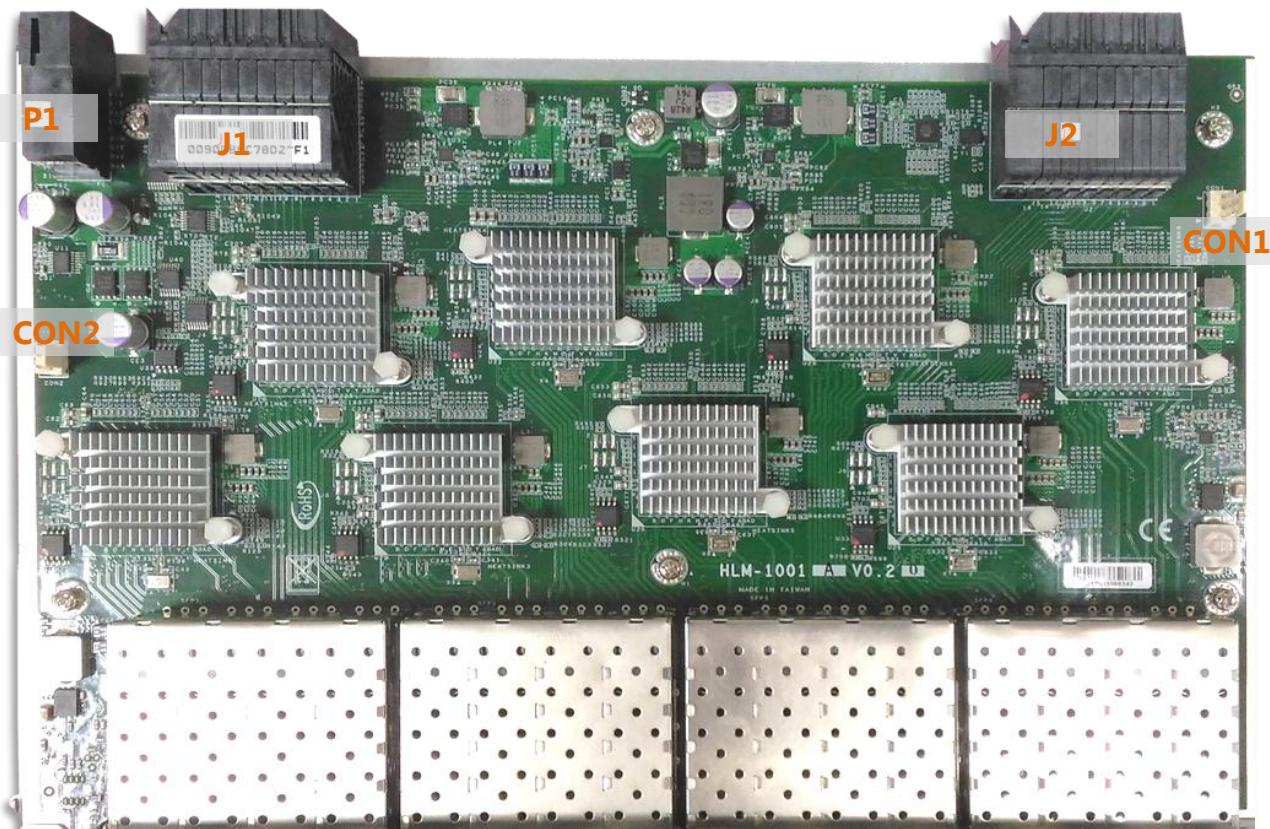
Block Diagram

The block diagram indicates how data flows among components on the motherboard. Please refer to the following figure for your motherboard's layout design.



Motherboard Layout

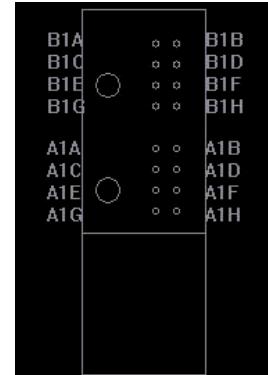
The motherboard layout shows the connectors and jumpers on the board. Refer to the following picture as a reference of the pin assignments and the internal connectors.



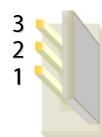
Internal Jumper & Connectors

P1: Power connector (Press-fit)

Pin	Description	Pin	Description
B1A	+12V	A1A	GND
B1B	+12V	A1B	GND
B1C	+12V	A1C	GND
B1D	+12V	A1D	GND
B1E	+12V	A1E	GND
B1F	+12V	A1F	GND
B1G	+12V	A1G	GND
B1H	+12V	A1H	GND

**CON1/2:** Fan Power connector

Pin	Description
1	GND
2	+12V
3	NC

**J1:** PCIe Card Connector

	1	2	3	4	5	6
A	GND	CPU1_PE3ATP2	GND	CPU1_PE2CTP10	GND	CPU1_PE2CTP8
B	CPU1_PE3ATP1	CPU1_PE3ATN2	CPU1_PE3ATP3	CPU1_PE2CTN10	CPU1_PE2CTP9	CPU1_PE2CTN8
C	CPU1_PE3ATN1	GND	CPU1_PE3ATN3	GND	CPU1_PE2CTN9	GND
D	GND	CPU1_PE3BTP6	GND	CPU1_PE2ATP0	GND	CPU1_PE2ATP2
E	CPU1_PE3ATN0	CPU1_PE3BTN6	CPU1_PE3BTP7	CPU1_PE2ATN0	CPU1_PE2ATP1	CPU1_PE2ATN2
F	CPU1_PE3ATP0	GND	CPU1_PE3BTN7	GND	CPU1_PE2ATN1	GND
G	GND	CPU1_PE3ARP2	GND	CPU1_PE3ARP0	GND	CPU1_PE2CRP9
H	CPU1_PE3BTP5	CPU1_PE3ARN2	CPU1_PE3ARP1	CPU1_PE3ARN0	CPU1_PE2CRP8	CPU1_PE2CRN9
J	CPU1_PE3BTN5	GND	CPU1_PE3ARN1	GND	CPU1_PE2CRN8	GND
K	GND	CPU1_PE3BRN5	GND	CPU1_PE2ARP2	GND	CPU1_PE2ARP1
L	CPU1_PE3BTN4	CPU1_PE3BRP5	CPU1_PE3BRN4	CPU1_PE2ARN2	CPU1_PE2ARP0	CPU1_PE2ARN1
M	CPU1_PE3BTP4	GND	CPU1_PE3BRP4	GND	CPU1_PE2ARN0	GND
N	GND	CPU1_PE3ARN3	GND	CPU1_PE1BRN7	GND	CPU1_PE1ATN1
O	CPU1_PE3BRP7	CPU1_PE3ARP3	CPU1_PE1BRN6	CPU1_PE1BRP7	CPU1_PE1ATN0	CPU1_PE1ATP1
P	CPU1_PE3BRN7	GND	CPU1_PE1BRP6	GND	CPU1_PE1ATP0	GND
R	GND	CPU1_PE1ARP1	GND	CPU1_PE1ARP2	GND	CPU1_PE1BRN4
S	CPU1_PE3BRN6	CPU1_PE1ARN1	CPU1_PE1ARN0	CPU1_PE1ARN2	CPU1_PE1ARP3	CPU1_PE1BRP4
T	CPU1_PE3BRP6	GND	CPU1_PE1ARP0	GND	CPU1_PE1ARN3	GND

	7	8	9	10	11	12
A	GND	CPU1_PE2DTP12	GND	CPU1_PE2DTP14	GND	BOARD_ID0
B	CPU1_PE2CTP11	CPU1_PE2DTN12	CPU1_PE2DTP13	CPU1_PE2DTN14	CPU1_PE2DTP15	PRESENT#
C	CPU1_PE2CTN11	GND	CPU1_PE2DTN13	GND	CPU1_PE2DTN15	GND
D	GND	CPU1_PE2BTP4	GND	CPU1_PE2BTP6	GND	P5V
E	CPU1_PE2ATP3	CPU1_PE2BTN4	CPU1_PE2BTP5	CPU1_PE2BTN6	CPU1_PE2BTP7	P5V
F	CPU1_PE2ATN3	GND	CPU1_PE2BTN5	GND	CPU1_PE2BTN7	GND
G	GND	CPU1_PE2CRP11	GND	CPU1_PE2DRP13	GND	IPMI_DATA
H	CPU1_PE2CRP10	CPU1_PE2CRN11	CPU1_PE2DRP12	CPU1_PE2DRN13	CPU1_PE2DRP15	IPMI_CLK
J	CPU1_PE2CRN10	GND	CPU1_PE2DRN12	GND	CPU1_PE2DRN15	GND
K	GND	CPU1_PE2BRP4	GND	CPU1_PE2BRP6	GND	PCIE_RESET#
L	CPU1_PE2ARN3	CPU1_PE2BRN4	CPU1_PE2BRP5	CPU1_PE2BRN6	CPU1_PE2BRP7	WATCH_DOG#
M	CPU1_PE2ARN3	GND	CPU1_PE2BRN5	GND	CPU1_PE2BRN7	GND
N	GND	CPU1_PE1ATN3	GND	CPU1_PE1BTP6	GND	SMB_CH2_DATA
O	CPU1_PE1ATN2	CPU1_PE1ATP3	CPU1_PE1BTP7	CPU1_PE1BTN6	CPU1_PE2DRP14	SMB_CH2_CLK
P	CPU1_PE1ATP2	GND	CPU1_PE1BTN7	GND	CPU1_PE2DRN14	GND
R	GND	NC	GND	CPU1_PE1BTP4	GND	NC
S	CPU1_PE1BRN5	NC	NC	CPU1_PE1BTN4	CPU1_PE1BTP5	NC
T	CPU1_PE1BRP5	GND	HP_BUTTON#	GND	CPU1_PE1BTNS	GND

	13	14	15	16
A	GND	HP_PWR_ON#	GND	HP_BOTN
B	LC_PWRGD	THER_ALARM#	HP_PWROK	HP_ATN_LED
C	BOARD_ID1	GND	HP_PWRFAIL#	GND
D	GND	NC	GND	NC
E	NC	NC	NC	NC
F	NC	GND	NC	GND
G	GND	NC	GND	NC
H	NC	NC	NC	NC
J	NC	GND	NC	GND
K	GND	NC	GND	NC
L	NC	NC	NC	NC
M	NC	GND	NC	GND
N	GND	NC	GND	NC
O	NC	NC	NC	NC
P	NC	GND	NC	GND
R	GND	NC	GND	NC
S	NC	NC	NC	NC
T	NC	GND	NC	GND

Chapter 2: Motherboard Information

J2: PCIe Card Connector

	1	2	3	4	5	6
A	GND	CPU2_PE1ATP3	GND	CPU2_PE2DTP15	GND	CPU2_PE2DTP13
B	CPU2_PE1ATP1	CPU2_PE1ATN3	CPU2_PE1ATP2	CPU2_PE2DTN15	CPU2_PE2DTP14	CPU2_PE2DTN13
C	CPU2_PE1ATN1	GND	CPU2_PE1ATN2	GND	CPU2_PE2DTN14	GND
D	GND	CPU2_PE1ARP2	GND	CPU2_PE2CRP8	GND	CPU2_PE2CRP10
E	CPU2_PE1ATN0	CPU2_PE1ARN2	CPU2_PE1ARP1	CPU2_PE2CRN8	CPU2_PE2CRP9	CPU2_PE2CRN10
F	CPU2_PE1ATP0	GND	CPU2_PE1ARN1	GND	CPU2_PE2CRN9	GND
G	GND	CPU2_PE1BTN6	GND	CPU2_PE3BTP7	GND	CPU2_PE3ATP1
H	CPU2_PE1ARP3	CPU2_PE1BTP6	CPU2_PE1BTN7	CPU2_PE3BTP7	CPU2_PE3ATP0	CPU2_PE3ATN1
J	CPU2_PE1ARN3	GND	CPU2_PE1BTP7	GND	CPU2_PE3ATN0	GND
K	GND	CPU2_PE1BRP4	GND	CPU2_PE1BRP7	GND	CPU2_PE3ARP1
L	CPU2_PE1ARN0	CPU2_PE1BRN4	CPU2_PE1BRP6	CPU2_PE1BN7	CPU2_PE3ARN0	CPU2_PE3ARN1
M	CPU2_PE1ARP0	GND	CPU2_PE1BRN6	GND	CPU2_PE3ARP0	GND
N	GND	CPU2_PE1BRP5	GND	CPU2_PE3DTN15	GND	CPU2_PE3DRP14
O	CPU2_PE1BTN5	CPU2_PE1BRN5	CPU2_PE3DTN14	CPU2_PE3DTP15	CPU2_PE3DRP15	CPU2_PE3DRN14
P	CPU2_PE1BTP5	GND	CPU2_PE3DTP14	GND	CPU2_PE3DRN15	GND
R	GND	NC	GND	CPU2_PE3CTP9	GND	CPU2_PE3CTN11
S	CPU2_PE1BTN4	NC	CPU2_PE3CTP8	CPU2_PE3CTN9	CPU2_PE3CTP10	CPU2_PE3CTP11
T	CPU2_PE1BTP4	GND	CPU2_PE3CTN8	GND	CPU2_PE3CTN10	GND

	7	8	9	10	11	12
A	GND	CPU2_PE2CTP11	GND	CPU2_PE2CTP9	GND	NC
B	CPU2_PE2DTP12	CPU2_PE2CTN11	CPU2_PE2CTP8	CPU2_PE2CTN9	CPU2_PE2CTP10	NC
C	CPU2_PE2DTN12	GND	CPU2_PE2CTN8	GND	CPU2_PE2CTN10	GND
D	GND	CPU2_PE2DRP12	GND	CPU2_PE2DRP14	GND	PCH_SMBCLK
E	CPU2_PE2CRP11	CPU2_PE2DRN12	CPU2_PE2DRP13	CPU2_PE2DRN14	CPU2_PE2DRP15	PCH_SMBDATA
F	CPU2_PE2CRN11	GND	CPU2_PE2DRN13	GND	CPU2_PE2DRN15	GND
G	GND	CPU2_PE3BTP5	GND	CPU2_PE3ATP3	GND	NC
H	CPU2_PE3BTP6	CPU2_PE3BTN5	CPU2_PE3BTP4	CPU2_PE3ATN3	CPU2_PE3ATP2	NC
J	CPU2_PE3BTN6	GND	CPU2_PE3BTN4	GND	CPU2_PE3ATN2	GND
K	GND	CPU2_PE3ARP3	GND	CPU2_PE3BRP5	GND	NC
L	CPU2_PE3ARP2	CPU2_PE3ARN3	CPU2_PE3BRP4	CPU2_PE3BRN5	CPU2_PE3BRP7	NC
M	CPU2_PE3ARN2	GND	CPU2_PE3BRN4	GND	CPU2_PE3BRN7	GND
N	GND	CPU2_PE3DRP12	GND	CPU2_PE3CRP9	GND	NC
O	CPU2_PE3DRP13	CPU2_PE3DRN12	CPU2_PE3CRP11	CPU2_PE3CRN9	CPU2_PE3BRP6	NC
P	CPU2_PE3DRN13	GND	CPU2_PE3CRN11	GND	CPU2_PE3BRN6	GND
R	GND	NC	GND	CPU2_PE3CRN10	GND	NC
S	CPU2_PE3DTN12	NC	CPU2_PE3DTP13	CPU2_PE3CRP10	CPU2_PE3CRP8	NC
T	CPU2_PE3DTP12	GND	CPU2_PE3DTN13	GND	CPU2_PE3CRN8	GND

	13	14	15	16
A	GND	NC	GND	PCIE_CLK_N
B	NC	NC	NC	PCIE_CLK_P
C	NC	GND	NC	GND
D	GND	NC	GND	NC
E	NC	NC	NC	NC
F	NC	GND	NC	GND
G	GND	NC	GND	NC
H	NC	NC	NC	NC
J	NC	GND	NC	GND
K	GND	NC	GND	NC
L	NC	NC	NC	NC
M	NC	GND	NC	GND
N	GND	NC	GND	NC
O	NC	NC	NC	NC
P	NC	GND	NC	GND
R	GND	NC	GND	NC
S	NC	NC	NC	NC
T	NC	GND	NC	GND

CHAPTER 3: HARDWARE SETUP

To access some components and perform certain service procedures, you must perform the following procedures first.



Warning: To reduce the risk of personal injury, electric shock, or damage to the equipment, remove the power cord to remove power from the server. The front panel Power On/Standy button does not completely shut off system power. Portions of the power supply and some internal circuitry remain active until AC power is removed.

Replacing Front Network I/O Blades & Switch Boards

The system provides a total of six externally accessible LAN I/O blades and/or switch boards, varied depending on ordering configurations (the system supports up to 2x switch boards and up to 5x LAN I/O blades). To replace a new blade/board, please follow the steps below.

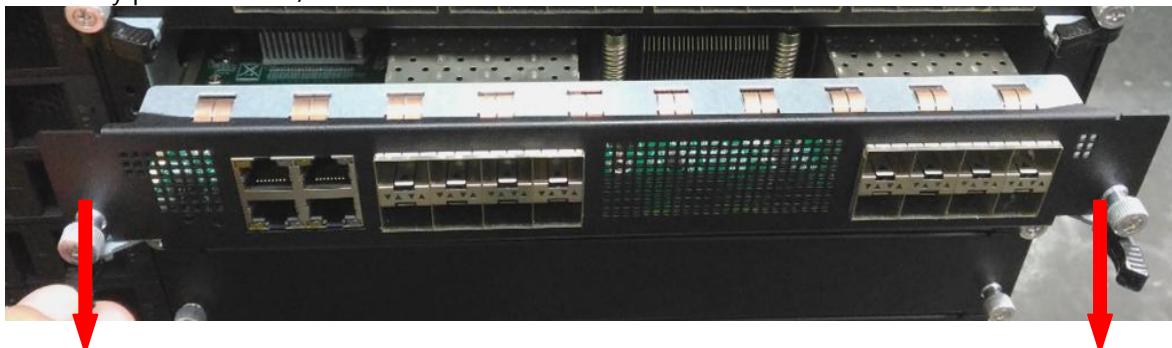
1. Rotate and loosen the two captive screws at both ends. You may use a screwdriver to conduct this task.



2. Pull the two locks towards the directions as shown in the arrows of directions below.



3. Gently pull the board/blade out.



APPENDIX: TERMS AND CONDITIONS

Warranty Policy

1. All products are under warranty against defects in materials and workmanship for a period of one year from the date of purchase.
2. The buyer will bear the return freight charges for goods returned for repair within the warranty period; whereas the manufacturer will bear the after service freight charges for goods returned to the user.
3. The buyer will pay for the repair (for replaced components plus service time) and transportation charges (both ways) for items after the expiration of the warranty period.
4. If the RMA Service Request Form does not meet the stated requirement as listed on "RMA Service," RMA goods will be returned at customer's expense.
5. The following conditions are excluded from this warranty:
 - ▶ Improper or inadequate maintenance by the customer
 - ▶ Unauthorized modification, misuse, or reversed engineering of the product
 - ▶ Operation outside of the environmental specifications for the product.

RMA Service

Requesting an RMA#

1. To obtain an RMA number, simply fill out and fax the "RMA Request Form " to your supplier.
2. The customer is required to fill out the problem code as listed. If your problem is not among the codes listed, please write the symptom description in the remarks box.
3. Ship the defective unit(s) on freight prepaid terms. Use the original packing materials when possible.
4. Mark the RMA# clearly on the box.



Note: Customer is responsible for shipping damage(s) resulting from inadequate/loose packing of the defective unit(s). All RMA# are valid for 30 days only; RMA goods received after the effective RMA# period will be rejected.

RMA Service Request Form

When requesting RMA service, please fill out the following form. Without this form enclosed, your RMA cannot be processed.

RMA No:	Reasons to Return: <input type="checkbox"/> Repair(Please include failure details) <input type="checkbox"/> Testing Purpose		
Company:	Contact Person:		
Phone No.	Purchased Date:		
Fax No.:	Applied Date:		
Return Shipping Address: _____			
Shipping by: <input type="checkbox"/> Air Freight <input type="checkbox"/> Sea <input type="checkbox"/> Express _____ <input type="checkbox"/> Others: _____			
Item	Model Name	Serial Number	Configuration

Item	Problem Code	Failure Status

*Problem Code:

- | | | | |
|--------------------|------------------------------|--------------------|--------------------------|
| 01:D.O.A. | 07: BIOS Problem | 13: SCSI | 19: DIO |
| 02: Second Time | 08: Keyboard Controller Fail | 14: LPT Port | 20: Buzzer |
| R.M.A. | 09: Cache RMA Problem | 15: PS2 | 21: Shut Down |
| 03: CMOS Data Lost | 10: Memory Socket Bad | 16: LAN | 22: Panel Fail |
| 04: FDC Fail | 11: Hang Up Software | 17: COM Port | 23: CRT Fail |
| 05: HDC Fail | 12: Out Look Damage | 18: Watchdog Timer | 24: Others (Pls specify) |
| 06: Bad Slot | | | |

Request Party

Confirmed By Supplier

Authorized Signature / Date

Authorized Signature / Date