

NEC Express Server Express5800 Series

Express5800/R320c-E4

Model Number: N8800-173F, EXP320P

Express5800/R320c-M4

Model Number: N8800-174F, EXP320Q

Express5800/R320d-E4

Model Number: N8800-184F, EXP320P

Express5800/R320d-M4

Model Number: N8800-185F. EXP320Q

User's Guide

Chapter 1 General Description

Chapter 2 Preparations

Chapter 3 Setup

Chapter 4 Appendix

Documents for This Product

Documents for this product are provided as booklets (\bigcirc) and as electronic manuals (\bigcirc) in the EXPRESSBUILDER DVD (\bigcirc).

PDF	Haaria Cuida / Flastria man					
	User's Guide (Electric manuals are available for Windows model or Linux model)					
	Chapter 1: General Description	Overviews, names, and functions of the server components				
, i	Chapter 2: Preparations	Installation of additional options, connection of peripheral devices, and suitable location for this server				
	Chapter 3: Setup	System BIOS configurations and summary of EXPRESSBUILDER				
	Chapter 4: Appendix	Specifications				
PDE						
	Installation Guide (Electric	manuals are available for Windows model or Linux model)				
	Chapter 1: Installing Operating System	Installation of OS and drivers, and precautions for installation				
	Chapter 2: Installing Bundled Software	Installation of bundled software, such as NEC ESMPRO				
	Chapter 3: Configuring the Separate Log Server	Configure the log server using other than ftSys Management Appliance				
PDF	Maintanana Ovida / Elaste					
		ic manuals are available for Windows model or Linux model)				
	Chapter 1: Maintenance	Server maintenance and troubleshooting				
, ,	Chapter 2 Configuring and Upgrading the System	Configure hardware and the setup of management tools				
	Chapter 3: Useful Features	Useful features and the detail of system BIOS settings, SAS Configuration Utility, and EXPRESSBUILDER				
PDF	Other documents The detail of NEC ESMPRO,	BMC Configuration, and other features.				

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Notations Used in This Document

Notations used in the text

In addition to safety-related symbols urging caution, three other types of notations are used in this document. These notations have the following meanings.

Important	Indicates critical items that must be followed when handling the hardware or operating software. If the procedures described are not followed, hardware failure, data loss, or other serious malfunctions could occur.	
Note	Indicates items that must be confirmed when handling the hardware or operating software.	
Tips	Indicates information that is helpful to keep in mind when using this server.	

Optical disk drive

This server is equipped with one of the following drives. These drives are referred to as *optical disk drive* in this document.

- DVD-ROM drive
- DVD Super MULTI drive

Abbreviations of Operating Systems (Windows / Linux)

Windows/Linux Operating Systems are referred to as follows.

See Chapter 1 (1.2 Supported Windows/Linux OS) in Installation Guide (Windows/Linux) for detailed information.

Notations in this document	Official names of OS		
Windows Server 2012	Windows Server 2012 Standard		
Willdows Server 2012	Windows Server 2012 Datacenter		
Windows Server 2008 R2	Windows Server 2008 R2 Standard		
Willdows Server 2008 R2	Windows Server 2008 R2 Enterprise		
Red Hat Enterprise Linux 6 Server	Red Hat Enterprise Linux 6 Server (x86_64)		
VMware 5.5	VMware vSphere 5.5 Update 1		

POST

POST described in this document refers to the following.

• Power On Self-Test

BMC

BMC described in this document refers to the following.

• Baseboard Management Controller

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Registration NO. : KCC-REM-NEC-EXP320Q

Basic Model Number : EXP320Q

Trade Name or Registrant : NEC CORPORATION

Equipment Name : FT Server

Manufacturer : NEC CORPORATION

Turkish RoHS information relevant for Turkish market

EEE Yönetmeliğine Uygundur.

Japan

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VCCI-A

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Vietnum

Complying with "CIRCULAR, No.30/2011/TT-BCT (Hanoi, August 10 2011), Temporary regulations on content limit for certain hazardous substances in electrical products"

the Ukraine

English	Declaration of Conformity with the requirements of Technical Regulation on the Restriction Of the use of certain Hazardous Substances in Electrical and Electronic Equipment (adopted by Order №1057 of Cabinet of Ministers of Ukraine)
	The Product is in conformity with the requirements of Technical Regulation on the Restriction Of the use of certain Hazardous Substances in electrical and electronic equipment (TR on RoHS).
	The content of hazardous substance with the exemption of the applications listed in the Annex №2 of TR on RoHS: 1. Lead (Pb) – not over 0,1wt % or 1000wt ppm;
	2. Cadmium (Cd) – not over 0,01wt % or 100wt ppm;
	3. Mercury (Hg) – not over 0,1wt % or 1000wt ppm;
	4. Hexavalent chromium (Cr ⁶⁺) – not over 0,1wt % or 1000wt ppm;
	5. Polybrominated biphenyls (PBBs) – not over 0,1wt % or 1000wt ppm;
	6. Polybrominated diphenyl ethers (PBDEs) – not over 0,1wt % or 1000wt ppm.
Ukrainian	Декларація про Відповідність Вимогам Технічного Регламенту Обмеження Використання деяких Небезпечних Речовин в електричному та електронному обладнанні (затвердженого Постановою №1057 Кабінету Міністрів України) Виріб відповідає вимогам Технічного Регламенту Обмеження Використання
	деяких Небезпечних Речовин в електричному та електронному обладнанні (ТР ОВНР).
	Вміст небезпечних речовин у випадках, не обумовлених в Додатку №2 ТР OBHP, :
	1. свинець(Pb) – не перевищує 0,1 % ваги речовини або в концентрації до 1000 частин на мільйон;
	2. кадмій (Cd)– не перевищує 0,01 % ваги речовини або в концентрації до 100 частин на мільйон;
	3. ртуть(Hg) — не перевищує 0,1 % ваги речовини або в концентрації до 1000 частин на мільйон;
	 шестивалентний хром (Cr⁶⁺) – не перевищує 0,1 % ваги речовини або в концентрації до 1000 частин на мільйон;
	5. полібромбіфеноли (РВВ)— не перевищує 0,1% ваги речовини або в концентрації до 1000 частин на мільйон;
	6. полібромдефенілові ефіри (PBDE) – не перевищує 0,1 % ваги речовини або в концентрації до 1000 частин на мільйон.

Russian

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Требованиям Технического Регламента об Ограничении Использования некоторых Вредных Веществ в электрическом и электронном оборудовании (утверждённого Постановлением №1057 Кабинета Министров Украины)

Изделие соответствует требованиям Технического Регламента об Ограничении Использования некоторых Вредных Веществ в электрическом и электронном оборудовании (TP OИВВ).

Содержание вредных веществ в случаях, не предусмотренных Дополнением №2 TP OИВВ:

- 1. свинец (Pb) не превышает 0,1 % веса вещества или в концентрации до 1000 миллионных частей;
- 2. кадмий (Cd) не превышает 0,01 % веса вещества или в концентрации до 100 миллионных частей;
- ртуть (Hg) не превышает 0,1 % веса вещества или в концентрации до 1000 миллионных частей;
- шестивалентный хром (Cr⁶⁺)

 не превышает 0,1 % веса вещества или в концентрации до 1000 миллионных частей;
- 5. полибромбифенолы (PBB) не превышает 0,1 % веса вещества или в концентрации до 1000 миллионных частей;
- 6. полибромдифеноловые эфиры (PBDE) не превышает 0,1 % веса вещества или в концентрации до 1000 миллионных частей.



Disposing of your used product

In the European Union

EU-wide legislation as implemented in each Member State requires that used electrical and electronic products carrying the mark (left) must be disposed of separately from normal household waste. This includes Information and Communication Technology (ICT) equipment or electrical accessories, such as cables or DVDs.

When disposing of used products, you should comply with applicable legislation or agreements you may have. The mark on the electrical and electronic products only applies to the current European Union Member States.

Outside the European Union

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India

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The most recent version of the guide, as well as other related documents, is also available for download from the following website.

http://www.nec.com/



Precautions for Use (Be Sure to Read)

The following provides information required to use your server safely and properly. For details of names in this section, see *Chapter 1 (4. Names and Functions of Components)* in this document.

Safety precautions

Follow the instructions in this document for the safe use of NEC Express server.

This User's Guide describes hazardous parts of the server, possible hazards, and how to avoid them. Server components with possible danger are indicated with a warning label placed on or around them (or, in some cases, by printing the warnings on the server).

In User's Guide or on warning labels, **WARNING** or **CAUTION** is used to indicate a degree of danger. These terms are defined as follows:



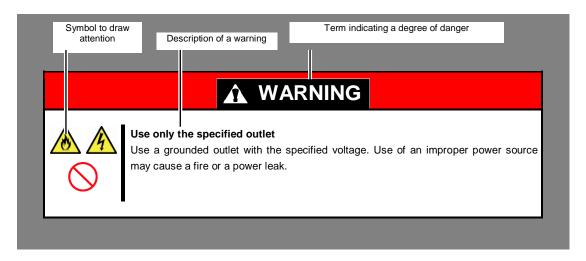
Indicates there is a risk of death or serious personal injury

Indicates there is a risk of burns, other personal injury, or property damage

Precautions and notices against hazards are presented with one of the following three symbols. The individual symbols are defined as follows:

	Attention	This symbol indicates the presence of a hazard if the instruction is ignored. An image in the symbol illustrates the hazard type.	(Example) (Electric shock risk)
\Diamond	Prohibited Action	This symbol indicates prohibited actions. An image in the symbol illustrates a particular prohibited action.	(Example) (Do not disassemble)
	Mandatory Action	This symbol indicates mandatory actions. An image in the symbol illustrates a mandatory action to avoid a particular hazard.	(Example) (Disconnect a plug)

(A label example used in this User's Guide)

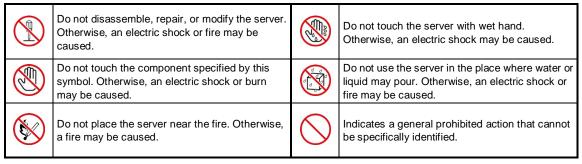


Symbols used in this document and on warning labels

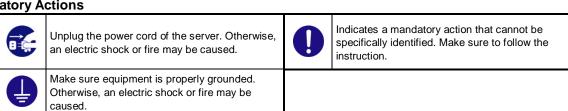
Attentions

	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
A	Indicates the presence of electric shock hazards.		Indicates the presence of mechanical parts that can result in bodily injury.		
	Indicates the presence of a hot surface or component. Touching this surface could result in bodily injury.		Indicates the presence of mechanical parts that can result in pinching or other bodily injury.		
	Indicates there is a risk of explosion.	*	Indicates the presence of laser beam that cause blindness.		
	Indicates there is a risk of fire or fumes.	<u>^</u>	Indicates a general notice or warning that cannot be specifically identified.		

Prohibited Actions



Mandatory Actions



Safety notes

This section provides notes on using the server safely. Read this section carefully to ensure proper and safe use of the server. For symbols, see *Safety precautions*.

Safety Instructions

General

WARNING



Do not use the server for services where human life may be at stake or high reliability is required.

This server is not intended for use in medical, nuclear, aerospace, mass transit or other applications where human life may be at stake or high reliability is required, nor is it intended for use in controlling such applications. We disclaim liability for any personal injury and property damages caused by such use of this server.



Do not use the server if any smoke, odor, or noise is present.

If smoke, odor, or noise is present, immediately turn off the server and disconnect the power plug from the outlet, then contact the store where you purchased the product or your maintenance service company. Using the server in such conditions may cause a fire.



Do not insert needles or metal objects.

Do not insert needles or metal objects into ventilation holes in the server or openings in the optical disk drive. Doing so may cause an electric shock.



Use a rack that conforms to the designated standard

This server can be mounted onto a 19-inch rack that conforms to EIA standards. Do not mount the server onto any rack that does not conform to EIA standards. Doing so may cause a server malfunction, personal injury, or damage to peripheral devices. For more information about racks that can be used with the server, consult with your maintenance service company.



Use the server only under the specified environment

Do not install the server rack in any environment that is not suitable for installation.





Installation in an unsuitable environment is harmful for the server and other systems installed in the rack and may cause fire or personal injury due to the rack falling. For a detailed explanation on installation environments or seismic reinforcement, consult with the instruction manual supplied with the rack or your maintenance service company.

▲ CAUTION





Keep water or foreign matter away from the server.

Do not let any liquid such as water or foreign materials including pins or paper clips enter the server. Failure to follow this warning may cause an electric shock, a fire, or failure of the server. When such things accidentally enter the server, immediately turn off the power and disconnect the power plug from the outlet. Do not disassemble the server, and contact the store where you purchased the product or your maintenance service company.

Rack installation

A CAUTION





Do not attempt to carry or install the server alone

More than two people are required to carry or install the rack. Otherwise, the rack may fall, resulting in personal injury or damage to peripheral devices. In particular, tall racks such as a 44U rack become unstable unless steadied with a stabilizer. Make sure that two or more people hold the rack to carry or install the rack.





Do not install with the load weight distributed unevenly

To avoid unevenly distributing the load of the rack and server, install a stabilizer or connect multiple racks to distribute the weight. Otherwise, the rack may fall, resulting in personal injury.





Do not install components alone, and check the door hinge pins of the rack

Two or more people are required to install the rack components such as the door or rails. When installing the door, make sure that both upper and lower hinge pins are held in place. Incomplete attachment may cause components to fall off as well as personal injury.





Do not extend any device from the rack that is not stabilized

When extending a device from the rack, make sure that the rack is stable (by using a stabilizer or seismic reinforcement). Otherwise, the rack may fall, resulting in personal injury.





Do not extend more than one device out of the rack

Extending multiple devices from the rack may cause the rack to fall, resulting in personal injury. Extend only one device at one time.





Do not exceed the rated capacity of the power supply when connecting devices

To prevent burn injuries, fire, and damage to the server, make sure the load on the branch circuit that supplies power to the rack will not exceed the rated load. For inquiries regarding the installation or wiring of the power supply system, consult with the company that performed the installation or wiring, or the power company that services your area.

Power supply and power cord use

WARNING





Do not hold the power plug with a wet hand.

Do not disconnect/connect the plug while your hands are wet. Failure to follow this warning may cause an electric shock.







Do not connect the ground wire to a gas pipe.

Never connect the ground wire to a gas pipe. Failure to follow this warning may cause a gas explosion.

A CAUTION









Plug in to a proper power source.

Use a grounded outlet with the specified voltage. Use of an outlet with a voltage other than that specified causes fire and electrical leakage. Do not install the server in any environment that requires an extension cord. Connecting to a cord that does not conform to the power supply specs of the server causes overheating, resulting in fire.

If you want to use an AC cord set with a ground wire of class 0I, be sure to connect the ground wire before inserting the power plug into the outlet. Before disconnecting the ground wire, be sure to disconnect the power plug from the output.





Do not connect many cords into a single outlet by using extension cords.

The electric current exceeding the rated flow overheats the outlet, which may cause a fire.

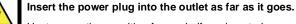












Heat generation resulting from a halfway inserted power plug (imperfect contact) may cause a fire. Heat will also be generated if condensation is formed on dusty blades of the halfway inserted plug, increasing the possibility of fire.



Do not use any unauthorized interface cable.

Use only the interface cables provided with the server. Electric current that exceeds the amount allowed could cause fire. Also, observe the following precautions to prevent electrical shock or fire caused by a damaged power cord.





- Do not stretch the cord harness
- Do not bend the power cord.
- Do not twist the power cord
- Do not step on the power cord.
- Uncoil the power cord before use
- Do not secure the power cord with staples or equivalents
- Do not pinch the power cord
- Keep chemicals away from the power cord
- Do not place any object on the power cord
- Do not alter, modify, or repair the power cord
- Do not use a damaged power cord (replace the damaged power cord with a power cord of the same standard. For information on replacing the power cord, contact the store where you purchased the product or a maintenance service company)

A CAUTION





Do not use the attached power cord for any other devices or usage.



The power cord that comes with your server is designed aiming to connect with this server and to use with the server, and its safety has been tested. Do not use the attached power cord for any other purpose. Doing so may cause a fire or an electric shock.





Do not pull out a cable by gripping the cable part.



Pull a cable straight out by gripping the connector part. Pulling a cable by gripping the cable part or applying extra pressure to the connector part may damage the cable part, which may cause a fire or electric shock.

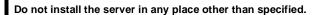
Installation, relocation, storage, and connection

A CAUTION



Do not attempt to lift the server by yourself

Some servers weigh up to 51 kg depending on the server components. Carrying the server by yourself may damage your back. At least two people should securely hold the server from the bottom when carrying it. Do not attempt to lift the server while the front bezel attached. Doing so causes the front bezel to fall off the server, resulting in personal injury.





Do not install the server in the following places or any place other than specified in this User's Guide. Failure to follow this instruction may cause a fire.



- A dusty place
- A humid place such as near a boiler
- A place exposed to direct sunlight
- An unstable place

Do not use the server in an environment where corrosive gas is present





Do not install the server in a place subject to corrosive gases including sodium chloride, sulfur dioxide, hydrogen sulfide, nitrogen dioxide, chlorine, ammonia, or ozone. Do not install the server in an environment that contains dust, chemicals that accelerate corrosion such as NaCl or sulfur, or conductive materials. Failure to follow this warning may cause the wiring on the printed wiring board to short-circuit, leading to fire. If you have any questions, contact the store where you purchased the product or a maintenance service company.





Do not install the server while the cover is removed



Do not install the server to a rack while the cover or other relevant items removed. Not only will the cooling effect within the server decrease, causing the server to malfunction, but also may allow dust to enter the server, resulting in fire or electrical shock.



Do not get your fingers caught in the rails

When mounting/removing the server onto/from the rack, be careful to avoid getting your fingers caught in the rails or cutting your fingers on the rails.

A CAUTION



Do not apply any weight on the server when it is extended from the rack

Also, observe the following notes on using and connecting an interface cable.

Do not apply force on the server when it is extended from the rack. Doing so cause the frames to bend, which makes it impossible to be mounted on the rack. It also may cause the server to fall, resulting in personal injury.





Do not attempt to connect or disconnect the interface cable while the power cord is plugged into

Be sure to unplug the power cord from a power outlet before connecting/disconnecting any interface cable to/from the server. If the server is off-powered but its power cord is plugged to a power source, touching a cable or connector may cause an electric shock or a fire resulted from a short circuit.

Use only the specified interface cable.

Use only interface cables provided by NEC and locate a proper device and connector before connecting a cable. Using an authorized cable or connecting a cable to an improper destination may cause a short circuit, resulting in a fire.





- Do not step on the cable.
- Do not place any object on the cable.
- Do not use the server with loose cable connections.
- Do not use any damaged cable.

Cleaning and working with internal devices







Do not disassemble, repair, or alter the server.



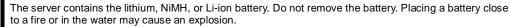
Never attempt to disassemble, repair, or alter the server on any occasion except as described in this document. Failure to follow this warning may cause not only malfunction of the server but also an electric shock or fire.







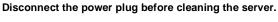






When the server does not operate appropriately due to the dead battery, contact the store you purchased the product or your maintenance service company. Do not attempt to disassemble the server to replace or recharge the battery by yourself.







Be to power off the server and disconnect the power plug from a power outlet before cleaning or installing/removing internal optional devices. Touching any internal device of the server with its power cord connected to a power source may cause an electric shock even of the server is off-powered.

Occasionally disconnect the power plug from the outlet and clean the plug with a dry cloth. Heat will be generated if condensation is formed on a dusty plug, which may cause a fire.

A CAUTION



Pay attention to hot surface.

Components including internal hard disk drives in the server are extremely hot just after the server is turned off. Allow the surface to cool before installing/removing.





Secure cables or cards in place.

Be sure to secure the power cord, interface cables, and cards in place. Incomplete installation causes a loose connection, resulting in smoke or fire

During operation

A CAUTION



Do not pull out or remove the server from the rack.

Do not pull the server out of the rack or remove it from the rack. In addition to causing equipment to not function properly, separating the server from the rack may result in personal injury.







Do not touch any part of the server including the cables when a thunderstorm is approaching. Also, do not connect or disconnect any devices. There may be a risk of electric shock from lightning strike.





Keep animals away from the server.

Keep animals such as pets away from the server. Pet hair or other waste enters the server, which may cause a fire or electric shock.





Do not leave the optical disk drive tray open.

Dust may get in the server when the tray is open, which may result in a malfunction. In addition, bumping the open tray could cause personal injury.





Do not remove the server from the rack while it is operating.

Do not pull out or remove the server from the rack while the server is running. In addition to causing equipment to not function properly, separating the server from the rack may result in personal injury.





Do not place any object on top of servers.

Separating the server from the rack may result in personal injury and damage to nearby personal belongings.





Do not get yourself caught in the fan

Keep your hands and hair away from the cooling fan at the rear of the server during operation. Failure to observe this warning may cause your hands or hair to catch in the fan, resulting in personal injury.

🤼 Mesures de sécurité - il est recommandé de bien lire ces instructions -

Ce document fournit des informations exigées pour utiliser ce produit sans risque et correctement.

Conservez ce document à portée de main pour que vous puissiez vous y référer si nécessaire. Avant d'utiliser ce produit, lisez ce manuel et le "Guide de l'utilisateur" (sur le CD/DVD fourni avec le produit).

INDICATIONS SUR LA SÉCURITÉ

Ces mesures de sécurité décrivent les composants du dispositif avec les dangers potentiels qui peuvent être causés si les avertissements sont ignorés, ainsi que les actions de prévention contre ces risques.

Les composants présentant un risque de danger sont indiqués avec une étiquette de mise en garde placée sur eux ou autour d'eux. Dans ce document ou sur les étiquettes de mise en garde, les termes "AVERTISSEMENT" ou "PRÉCAUTION" sont utilisés pour indiquer un degré de danger. Ces termes sont définis comme ci-après :



Ce terme signale qu'il y a risque de mort ou de blessure.



Ce terme signale qu'il y a un risque de brûlures, d'autre blessure ou de dégâts matériels.

Les précautions et notices contre les risques sont présentées avec l'un des trois symboles suivants. Les différents symboles sont définis comme ci-après :

\triangle	Attention	Ce symbole signale la présence de risque si l'instruction reste ignorée. Une image dans le symbole illustre le type de risque.	Exemple : Risque de décharge électrique	A
\bigcirc	Action qui est interdite	Ce symbole signale des actions qui sont interdites. Une image dans le symbole illustre une action interdite particulière.	Exemple : Ne démontez pas	
	Action obligatoire	Ce symbole signale des actions qui sont obligatoires. Une image dans le symbole illustre une action obligatoire pour éviter un risque particulier.	Exemple : Déconnectez une prise	0 5



Ne pas installer l'appareil pendant qu'il est sous tension.

Débranchez le cordon d'alimentation de la source d'alimentation principale lorsque l'on installe/désinstalle l'appareil vers/à partir de l'unité centrale de base ou que l'on le connecte avec l'enceinte.

Symboles utilisés dans ce document et sur les étiquettes de mise en garde

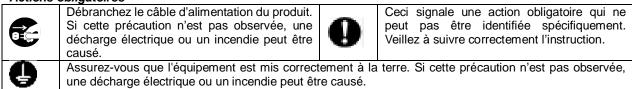
Attention

Attention					
A	Ceci signale la présence de risques de décharge électrique.		Ceci signale qu'il y a un risque d'incendie ou de fumée.		
	Ceci signale la présence des pièces mécaniques qui peuvent causer une blessure corporelle.		Ceci signale la présence d'une surface ou d'un composant réchauffé. Tout contact avec cette surface risque de provoquer une blessure corporelle.		
A Company	Ceci signale qu'il y a risque de blessure corporelle.	<u> </u>	Ceci signale un avis ou un avertissement général qui ne peuvent pas être identifiés spécifiquement.		
	Ceci signale qu'il y a risque d'explosion.	*	Ceci signale la présence d'un rayon laser pouvant causer la cécité.		

Actions qui sont interdites

0	Ceci signale une action interdite en général qui ne peut pas être identifiée spécifiquement.		Ne démontez pas, ne réparez pas ou ne modifiez pas le produit. Si cette précaution n'est pas observée, une décharge électrique ou un incendie peut être causé.
8	N'utilisez pas le produit dans un endroit où de l'eau ou un liquide peut être versé. Si cette précaution n'est pas observée, une décharge électrique ou un incendie peut être causée.		Ne touchez pas le produit avec les mains mouillées. Si cette précaution n'est pas observée, une décharge électrique peut être causée.
®	Ne touchez pas le composant spécifié par ce symbole. Si cette précaution n'est pas observée, une décharge électrique ou une brûlure peut être causée.	®	Ne placez pas le produit près d'une flamme. Si cette précaution n'est pas observée, un incendie peut être causé.

Actions obligatoires



CONSIGNES DE SÉCURITÉ

Installation du rack

ATTENTION		
0	Environnement d'exploitation élevé Si l'appareil est installé dans un ensemble de rack fermé ou de plusieurs unités, la température ambiante de fonctionnement peut être supérieure à la température ambiante de la salle. Par conséquent, vous devez installer l'équipement dans un environnement compatible avec la température ambiante maximale (Tma) spécifiée par le constructeur.	
0	Débit d'air réduit L'installation de l'équipement dans un rack doit être telle que la quantité de débit d'air nécessaire pour un fonctionnement sûr de l'appareil ne soit pas compromise.	
\bigcirc	Charge mécanique Le montage de l'équipement dans le rack doit être effectué de telle manière qu'une situation dangereuse ne se produise pas en raison d'une charge inégale mécanique.	
0	Surcharge du circuit Il faudrait prendre en considération la connexion de l'équipement à l'alimentation du circuit et l'effet que la surcharge des circuits pourrait avoir sur la protection contre les surintensités et les câbles d'alimentation. Il faudrait également prendre en considération les valeurs nominales indiquées sur la plaque de signalisation de l'équipement concernant ce problème.	
0	Mise à la terre fiable Une mise à la terre fiable de l'équipement monté sur rack devrait être fournie. Vous devez porter une attention particulière aux connexions de l'alimentation, à l'exception des connexions directes au circuit de dérivation (par exemple, utilisation de multiprises).	

Sources d'énergie multiples

A ATTENTION					
0	« Pour mettre l'unité entièrement hors tension, débrancher les deux cordons d'alimentation » ou leur équivalent.				

ATTENTION					
*	Rayonnement laser (invisible) si ouvert (et verrouillage défait) NE PAS REGARDER LE RAYONNEMENT.				
A	Risque d'explosion si les piles sont remplacées par d'autres de type incorrect. Jeter les piles usées conformément aux instructions. »				

安全注意事項

本節講述安全使用本伺服器所需的注意事項。為了您正確安全地使用本伺服器,請仔細閱讀該節內容。符號的相關說明請參考"安全標示(SAFETY INDICATIONS)"說明。

一般注意事項

WARNING



請勿用於危及人命和需要高度可靠性的操作上。

請勿安裝本伺服器於醫療設備、原子能設備、航空宇宙機器、運輸設備等會危及人命以及需要高度可靠性的設備和機器上,也勿使用本伺服器來控制這些機器。如果將本伺服器用於這類系統的設備及機器,所造成人身事故及財產損失等後果,本公司概不負責。



發生冒煙、異味、雜音時請勿使用。

發生冒煙、異味、雜音等時,請立即關閉電源,並將電源插頭從插座上拔下。然後請與您的服務 代表聯繫。繼續使用會導致火災。



伺服器內請勿插入鐵絲和金屬片。

請勿將金屬片和鐵絲等異物插入通氣孔或軟碟機或光碟機的縫隙。有觸電的危險。



請勿在未指定的場所使用本產品。

請安裝伺服器於標準EIA 19吋的機架,請勿在不適當的場所安裝伺服器於機架。 否則,可能造成伺服器及機架內的其他系統受到不良影響,且機架脫落可能導致火災或者人身傷害。有關安裝環境和防震技術的詳細事項請參閱附帶的用戶手冊或與經銷商或維護服務公司聯繫。



請參照相關標準安裝伺服器於機架。

請依照EIA標準安裝伺服器於機架內。請勿安裝伺服器於除了標準EIA 19吋以外的任何機架或不適當的機架。否則可能引起伺服器操作不正確或人員傷害或周圍壞境設備的損害,請聯繫您伺服器的機架服務代表。

⚠ CAUTION



伺服器內請勿進水和異物。

伺服器內請勿進水或有外來異物(如針或夾子等),否則可能導致火災、觸電或伺服器故障。一旦 有異物進入,請立即關閉電源,將電源插頭從插座拔下來。請勿自行抵卸,請聯繫您的服務代表。

機架

A CAUTION



請勿一個人單獨搬運或安裝伺服器。

請至少一人以上搬運或安裝機架,否則可能造成機架掉落導致人員傷害或損壞周圍設備,特別是高機架(如44U機架)必須用固定器來維持其穩定度,所以需要超過一人以上的人來搬運或安裝機架。



安裝伺服器時,請勿集中一個地方來承載所有的重量。

在機架上加裝固定器來避免單一地方承載重量或同時安裝更多機架來分散承載重量,否則機架可能倒下造成人員傷害。



請勿一個人單獨安裝伺服器零件。

請至少一人以上安裝包含如機架的門或托盤等零件,否則可能造成部份零件掉落損壞或人員傷害。



請完全插入鏈栓。

當安裝機架門時,請確認機架門上方及下方的鏈栓已完全插入機架,否則可能造成機架門掉落損壞或人員傷害。



請勿在機架不穩固時抽出設備。

在抽出設備之前請確認機架式是穩固的(使用穩固器或者通過抗震技術固定)。



請勿從機架抽出超過一個以上的設備。

同時抽出超過一個以上的設備可能導致機架傾倒。一次只能從機架抽出一個設備。



請勿配線超過伺服器的電源功率。

爲了避免發熱、火災和設備損壞,請務必確保不要超過線路的額定負載。有關電力設備的安裝和電線的更多資訊請聯繫電工或者當地的電力公司。

電源及電源線注意事項

WARNING



請勿以濕的手拿取電源插頭。

請勿以濕的手插拔電源插頭,否則有觸電的危險。



請勿將接地線連接到瓦斯管線。

請勿將接地線連接到瓦斯管線,忽視此警告可能導致瓦斯爆炸。

⚠ CAUTION



請插入適當的插座。

請使用指定電壓的接地壁式插座。使用不當電源可能引起火災和漏電。 請勿使用延長線安裝伺服器。如果連接與本伺服器電源規格不符的電線,會因過熱而導致火災。



請勿連接電源線到有數個連接頭的非法電源插座。

插座如果超過額定電流,會因過熱而導致火災的危險。



請勿用拉的方式拔下電源線。

要從伺服器拔下電源線時,請握住電源線的連接頭並直直的拔下,若僅拉住線的部份,會給予連接頭過大壓力,導致線及連接頭的損壞,進而導致電擊傷害或火災。



插入電源線到電源插頭時,請儘可能插入到底。

若僅插入一半會因接觸不良而發熱造成火災。另插入一半的插頭部份,若附著灰塵或水滴等,也會發熱而導致火災。



請勿使用未經授權的電源線。

請使用隨伺服器所檢附的電源線,若使用未經授權的電源線,當電流超過流動速率時可能引起火 災。

此外,請注意下列事項以避免因電源線損壞導致電擊或火災。

- 請勿伸長電源線。
- 請勿夾住電源線。
- 請勿彎折電源線。
- 請勿讓電源線靠近化學藥品。
- 請勿扭轉電源線。
- 請勿在電源線上放置物品。
- 請勿捆綁電源線。
- 請勿對電源線進行改造、加工及修復。
- 請勿用訂書針或其他東西等固定電源線。
- 請勿使用任何已損壞的電源線。(損壞的電源線要立即更換爲相同規格的電源線。更換事宜請與服務代表聯繫)



請勿使用其他設備所檢附的電源線。

請使用隨伺服器所檢附的電源線,此電源線乃針對您伺服器所設計,安全性已經過測試,所以請勿使用其他用途所檢附的電源線,否則可能引起電擊或火災。

安裝,移動,保管及連接注意事項

WARNING



在安裝或移動伺服器之前,請先拔下電源插頭。

在安裝或移動伺服器之前請確定已關閉電源,並拔下電源插頭。只有在拔下電源線後,伺服器的電壓才會消除。

⚠ CAUTION



一個人不舉起。

書機的CPU/IO組件的重量是最大18Kg。有一個人運送的話腰疼痛的可能。 請以2人以上好好地有底面運送裝置。

還有,請別以安服務台bezel的狀態舉起。服務台bezel脫離掉下,成爲傷的原因。



請勿安裝或存放伺服器於未指定的場所。

請勿將伺服器放置於以下或手冊內未指定的場所,否則有導致火災的危險。

- 灰塵較多的場所
- 熱水器旁等濕氣較高的場所
- 陽光直射的場所
- 不平穩的場所



請勿在有腐蝕性氣體的環境中使用伺服器。

請確認勿在有腐蝕性氣體(如二氧化硫、氫化硫、氮、氫、氨或臭氧等)的環境中使用或存放本 產品。

請勿安裝於灰塵較多或含有腐蝕性物質如氯化鈉或硫磺,以及空氣中含有過量金屬碎末或傳導粒子等的地方。

否則會導致內部印刷版腐蝕或短路,引起火災的危險。



請小心注意勿讓伺服器掉落。

在安裝伺服器到機架時,請穩穩握住伺服器底部,此機架座並沒有停止器或機械鎖來避面伺服器 掉落,請遵守規定避免造成人員傷害。

▲ CAUTION



請勿在伺服器拉出機架後離開。

請勿在伺服器拉出機架時操作伺服器,此機架座並沒有停止器或機械鎖來避面伺服器掉落,請遵守規定避免造成人員傷害。



請勿安裝伺服器於沒有上蓋的機架。

請勿安裝伺服器於沒有上蓋的機架,否則可能減少伺服器內風扇運轉造成故障或灰塵進入伺服器內,造成電擊或火災。



請勿讓手被滑軌或其他零件夾住。

請務必小心您的手指可能在安裝伺服器到機架或從機架上卸載的時候,在滑軌及其他機械零件間被夾住,或是被滑軌所劃傷。



請勿在伺服器電源線連接插頭的狀態下,進行信號線的連接。

在伺服器安裝/移動任何選配的內部設備或連接/拔除任何信號線之前,請確定關閉伺服器電源並拔下電源線插頭。如果伺服器是關閉電源,但電源線插頭仍然插在電源插座上,在觸摸內部設備、信號線或連接頭時,可能引起電擊或因爲短路引起火災。



請勿使用未經授權的信號線。

請使用NEC所提供的信號線,並在確認適當的設備及連接頭後再進行連接。使用未指定信號線或連接錯誤等,會因爲短路導致火災。

此外,對於信號線的操作和連接,請遵守下列注意事項:

- 請勿使用任何損壞的信號線接頭。
- 請勿踩踏信號線。
- 請勿在信號線上放置物品。
- 請勿使用已鬆動的信號線來連接伺服器。
- 請勿使用任何損壞的信號線。

清潔及操作內部設備時的注意事項

WARNING



請勿自行拆卸、修理或改造本伺服器。



除本手冊記載的情況外,請勿自行嚐試拆卸、修理或改造,否則,不但可能導致伺服器無法正常運行,還有發生觸電和火災的危險。



請勿擅自拆除鋰電池。

您的伺服器內部安裝有鋰電池。請勿拆下電池。鋰電池靠近火或浸水均有可能發生爆炸。如果更換不正確會有爆炸的危險

由於電池使用期限而導致伺服器無法正常運行時,請勿自行拆卸、更換或充電等,請與服務代表聯繫。請依製造商說明書處理用過之電池。



進入伺服器內部或連接週邊前,請先拔下電源插頭。

清潔或安裝/移除伺服器內部的選購設備時,請確認關閉伺服器電源,並拔下電源插頭。即使已 關閉電源,但連接著電源線,接觸到任何內部設備也會有觸電的危險。

請經常拔下電源插頭,用乾布擦拭灰塵和附著物。有灰塵或水滴等附著時會發熱,有導致火災的危險。

▲ CAUTION



設備應避免高溫。

伺服器關閉電源後,內置硬碟等內部設備仍然處於高溫狀態,請在充分冷卻之後再進行安裝/移 除任何零件。



確認安裝完畢。

配件板要確實安裝妥當。安裝不牢有可能引起接觸不良,造成冒煙和火災。



請用保護蓋保護好未使用的連接頭。

請用保護蓋保護好未使用的電源線連接頭,以防止短路或觸電。從內部設備上拔下電源插頭時, 請用保護蓋蓋好連接頭,否則有導致火災或觸電的危險。

操作注意事項

▲ CAUTION



遠離風扇。

請保持您的手及頭髮遠離伺服器背後的冷風扇,否則您的手或頭髮有可能被夾住而造成傷害。



避免在雷雨時接觸伺服器。



當雷雨發生前請拔下電源插頭,若來不及拔下電源插頭,請勿觸摸伺服器的任何部份包含信號線,以防止發生火災或觸電。



寵物應遠離伺服器。.

否則可能導致火災和觸電。



不要將光碟機托盤拉出放置。

防止托盤中進入灰塵引起運轉錯誤。同時防止因碰撞等造成托盤損傷。



非必要時,請勿將伺服器從機架拉出或移動。

非必要時,請勿將伺服器從機架拉出或移動,否則可能造成伺服器無法正確操作,且伺服器 落下造成人員傷害。

⚠️使用上のご注意(必ずお読みください)

本製品を安全に正しくご使用になるために必要な情報が記載されています。また、本文中の名称については本書の「Chapter 1 (4. Names and Functions of Components)」の項を参照してください。

安全にかかわる表示について

本製品を安全にお使いいただくために、このユーザーズガイドの指示に従って操作してください。

ユーザーズガイドは、本機のどこが危険でどのような危険に遭うおそれがあるか、どうすれば危険を避けられるかなどについて説明しています。また、本機で危険が想定される箇所またはその付近には警告ラベルが貼り付けられています(印刷されている場合もあります)。

ユーザーズガイド、および警告ラベルでは、危険の程度を表す言葉として、「警告」と「注意」という用語を 使用しています。それぞれの用語は次のような意味を持つものとして定義しています。



人が死亡する、または重傷を負うおそれがあることを示します。



火傷やけがなどを負うおそれや物的損害を負うおそれがあることを示します。

危険に対する注意・表示は次の3種類の記号を使って表しています。それぞれの記号は次のような意味を持つ ものとして定義しています。

	注意の喚起	この記号は危険が発生するおそれがあることを表します。 記号の中の絵表示は危険の内容を図案化したものです。	(例) (感電注意)
\Diamond	行為の禁止	この記号は行為の禁止を表します。記号の中や近くの絵表示は、してはならない行為の内容を図案化したものです。	(例) (分解禁止)
	行為の強制	この記号は行為の強制を表します。記号の中の絵表示は、 しなければならない行為の内容を図案化したものです。危 険を避けるためにはこの行為が必要です。	(例) (電源プラグを抜け)

(ユーザーズガイドでの表示例)



本書と警告ラベルで使用する記号とその内容

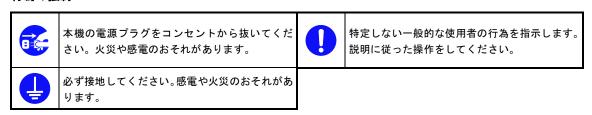
注意の喚起

A	感電のおそれのあることを示します。	指がはさまれてけがをするおそれがあることを 示します。
<u>∕</u>	高温による傷害を負うおそれがあることを示します。	けがをするおそれがあることを示します。
	爆発または破裂のおそれがあることを示します。	レーザー光による失明のおそれがあることを示 します。
	発煙または発火のおそれがあることを示します。	特定しない一般的な注意・警告を示します。

行為の禁止

本機を分解・修理・改造しないでください。感電 や火災のおそれがあります。		ぬれた手で触らないでください。感電するおそれ があります。
指定された場所以外には触らないでください。感 電や火傷などの傷害のおそれがあります。		水や液体がかかる場所で使用しないでください。 水にぬらすと感電や発火のおそれがあります。
火気に近づけないでください。発火するおそれが あります。	\bigcirc	特定しない一般的な禁止を示します。

行為の強制



安全上のご注意

本製品を安全にお使いいただくために、ここで説明する注意事項をよく読んでご理解し、安全にご活用ください。記号については、「安全にかかわる表示について」を参照してください。

全般的な注意事項

<u> 企</u>警告



人命に関わる業務や高度な信頼性を必要とする業務には使用しない

本機は、医療機器・原子力設備や機器、航空宇宙機器・輸送設備や機器など、人命に関わる設備や機器および高度な信頼性を必要とする設備や機器などへの組み込みやこれらの機器の制御などを目的とした使用は意図されておりません。これら設備や機器、制御システムなどに本機を使用した結果、人身事故、財産損害などが生じても弊社はいかなる責任も負いかねます。





煙や異臭、異音がしたまま使用しない

万一、煙、異臭、異音などが生じた場合は、ただちに電源をOFFにして電源プラグをコンセントから抜いてください。その後、お買い求めの販売店または保守サービス会社にご連絡ください。そのまま使用すると火災の原因となります。





針金や金属片を差し込まない

通気孔や光ディスクドライブのすきまから金属片や針金などの異物を差し込まないでください。感電の危険があります。

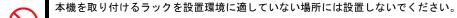


規格以外のラックで使用しない

本機はEIA規格に適合した19型(インチ)ラックにも取り付けて使用できます。EIA規格に適合していないラックに取り付けて使用しないでください。本機が正常に動作しなくなるばかりか、けがや周囲の破損の原因となることがあります。本機で使用できるラックについては保守サービス会社にお問い合わせください。



指定以外の場所で使用しない





本機やラックに取り付けているその他のシステムに悪影響をおよぼすばかりでなく、火災やラックの転倒によるけがなどをするおそれがあります。設置場所に関する詳細な説明や耐震工事についてはラックに添付の説明書を読むか保守サービス会社にお問い合わせください。

/! 注意





本機内に水や異物を入れない

本機内に水などの液体、ピンやクリップなどの異物を入れないでください。火災や感電、故障の原因となります。もし入ってしまったときは、すぐ電源をOFFにして、電源プラグをコンセントから抜いてください。分解しないで販売店または保守サービス会社にご連絡ください。

ラックの設置・取り扱いに関する注意事項

⚠ 注意





1人で搬送・設置をしない

ラックの搬送・設置は2人以上で行ってください。ラックが倒れてけがや周囲の破損の原因となります。 特に高さのあるラック(44Uラックなど)はスタビライザなどによって固定されていないときは不安定な状態にあります。かならず2人以上でラックを支えながら搬送・設置をしてください。





荷重が集中してしまうような設置はしない

ラック、および取り付けた装置の重量が一点に集中しないようスタビライザを取り付けるか、複数台のラックを連結して荷重を分散してください。ラックが倒れてけがをするおそれがあります。





1人で部品の取り付けをしない・ラック用ドアのヒンジのピンを確認する

ラック用のドアやレールなどの部品は2人以上で取り付けてください。また、ドアの取り付け時には上下のヒンジのピンが確実に差し込まれていることを確認してください。部品を落として破損させるばかりではなく、けがをするおそれがあります。





ラックが不安定な状態で装置をラックから引き出さない

ラックから装置を引き出す際は、必ずラックを安定させた状態(スタビライザの設置や耐震工事など)で引き出してください。ラックが倒れてけがをするおそれがあります。





複数台の装置をラックから引き出した状態にしない

複数台の装置をラックから引き出すとラックが倒れてけがをするおそれがあります。装置は一度に1台ずつ引き出してください。





定格電源を超える配線をしない

やけどや火災、装置の損傷を防止するためにラックに電源を供給する電源分岐回路の定格負荷を超えないようにしてください。なお、電源設備の設置や配線に関しては、電源工事を行った業者や管轄の電力会社にお問い合わせください。

電源・電源コードに関する注意事項

企業告





ぬれた手で電源プラグを持たない

ぬれた手で電源プラグの抜き差しをしないでください。感電するおそれがあります。





アース線をガス管につながない

アース線は絶対にガス管につながないでください。ガス爆発の原因になります。

/ 注意





指定以外のコンセントに差し込まない

指定された電圧でアース付のコンセントをお使いください。指定以外で使うと火災や漏電の原因となります。また、延長コードが必要となるような場所には設置しないでください。本機の電源仕様に合っていないコードに接続すると、コードが過熱して火災の原因となります。

クラス0Iのアース線付のACコードセットを使用する場合は、接地接続は必ず、電源プラグを電源につなぐ前に行ってください。接地接続を外す場合は、必ず電源プラグを電源から切り離してから行ってください。





たこ足配線にしない

コンセントに定格以上の電流が流れることによって、過熱して火災の原因となるおそれがあります。





中途半端に差し込まない

電源プラグは根元までしっかりと差し込んでください。中途半端に差し込むと接触不良のため発熱し、火災の原因となることがあります。また差し込み部にほこりがたまり、水滴などが付くと発熱し、火災の原因となるおそれがあります。

指定以外の電源コードを使わない

本機に添付されている電源コード以外のコードを使わないでください。電源コードに定格以上の電流が流れると、火災の原因となるおそれがあります。

また、電源コードの破損による感電や火災を防止するために次の注意をお守りください。





- コード部分を引っ張らない。
- 電源コードを折り曲げない。
- 電源コードをねじらない。
- 電源コードを踏まない。
- 電源コードを束ねたまま使わない。
- 電源コードをステープラなどで固定しない
- 電源コードをはさまない。
- 電源コードに薬品類をかけない。
- 電源コードの上にものを載せない。
- 電源コードを改造・加工・修復しない。
- 損傷した電源コードを使わない。(損傷した電源コードはすぐ同じ規格の電源コードと取り替えてください。交換に関しては、お買い求めの販売店または保守サービス会社にご連絡ください。)

⚠ 注意





指定された電源コードを他の装置や用途に使用しない

指定された電源コードは本機に接続し、使用することを目的として設計され、その安全性が確認されてい る物です。決して他の装置や用途に使用しないでください。火災や感電の原因となるおそれがあります。





電源ケーブルを持って引き抜かない

電源ケーブルを抜くときはコネクタ部分を持ってまっすぐに引き抜いてください。ケーブル部分を持って 引っ張ったりコネクタ部分に無理な力を加えたりするとケーブル部分が破損し、火災や感電の原因となり ます。

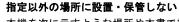
設置・装置の移動・保管・接続に関する注意事項

注意



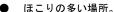
1人で持ち上げない

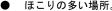
本機のCPU/IOモジュールの重量は最大18Kg(構成によっては異なる)あります。1人で運ぶと腰を痛めるお それがあります。装置は2人以上で底面をしっかりと持って運んでください。また、フロントベゼルを取 り付けた状態で持ち上げないでください。フロントベゼルが外れて落下し、けがの原因となります。





本機を次に示すような場所や本書で指定している場所以外に置かないでください。火災の原因となるおそ れがあります。





- 給湯器のそばなど湿気の多い場所。
- 直射日光が当たる場所。
- 不安定な場所。

腐食性ガスの存在する環境で使用または保管しない





腐食性ガス(二酸化硫黄、硫化水素、二酸化窒素、塩素、アンモニア、オゾンなど)の存在する環境に設置 し、使用しないでください。また、ほこりや空気中に腐食を促進する成分(塩化ナトリウムや硫黄など)や 導電性の金属などが含まれている環境へも設置しないでください。装置内部のプリント板が腐食し、故障 および発煙・発火の原因となるおそれがあります。もしご使用の環境で上記の疑いがある場合は、販売店 または保守サービス会社にご相談ください。





カバーを外したまま取り付けない

本機のカバー類を取り外した状態でラックに取り付けないでください。装置内部の冷却効果を低下させ、 誤動作の原因となるばかりでなく、ほこりが入って火災や感電の原因となることがあります。





指を挟まない

ラックへの取り付け・取り外しの際にレールなどで指を挟んだり、切ったりしないよう十分注意してくだ



ラックから引き出した状態にある装置に荷重をかけない

ラックから引き出された状態にある装置の上から重荷をかけないでください。フレームが曲がり、ラック へ搭載できなくなります。また、装置が落下し、けがをするおそれがあります。





プラグを差し込んだままインタフェースケーブルの取り付けや取り外しをしない

インタフェースケーブルの取り付け/取り外しは電源コードをコンセントから抜いて行ってください。たと え電源をOFFにしても電源コードを接続したままケーブルやコネクタに触ると感電したり、ショートによ る火災を起こしたりすることがあります。

⚠ 注意

指定以外のインタフェースケーブルを使用しない

インタフェースケーブルは、弊社が指定するものを使用し、接続する装置やコネクタを確認した上で接続 してください。指定以外のケーブルを使用したり、接続先を誤ったりすると、ショートにより火災を起こ すことがあります。





また、インタフェースケーブルの取り扱いや接続について次の注意をお守りください。

- 破損したケーブルコネクタを使用しない。
- ケーブルを踏まない。
- ケーブルの上にものを載せない。
- ケーブルの接続がゆるんだまま使用しない。 破損したケーブルを使用しない。

お手入れ・内蔵機器の取り扱いに関する注意事項

⚠ 警告





自分で分解・修理・改造はしない

本書に記載されている場合を除き、絶対に分解したり、修理・改造を行ったりしないでください。本機が 正常に動作しなくなるばかりでなく、感電や火災の危険があります。







本機内部にはリチウムイオンバッテリが取り付けられています)。バッテリを取り外さないでください。バ ッテリは火を近づけたり、水に浸けたりすると爆発するおそれがあります。



また、バッテリの寿命で装置が正しく動作しなくなったときは、ご自分で分解・交換・充電などをせずに お買い求めの販売店、または保守サービス会社に連絡してください。







電源プラグを差し込んだまま取り扱わない

お手入れや本機内蔵用オプションの取り付け/取り外し、本機内ケーブルの取り付け/取り外しは、本機の 電源プラグをコンセントから抜いて行ってください。たとえ電源をOFFにしても、電源コードを接続した まま本機内の部品に触ると感電するおそれがあります。

また、電源プラグはときどき抜いて、乾いた布でほこりやゴミをよくふき取ってください。ほこりがたま ったままで、水滴などが付くと発熱し、火災の原因となるおそれがあります。

注意



高温注意

本機の電源をOFFにした直後は、内蔵型のハードディスクドライブなどをはじめ装置内の部品が高温になっています。十分に冷めたことを確認してから取り付け/取り外しを行ってください。





中途半端に取り付けない

電源ケーブルやインタフェースケーブル、ボードは確実に取り付けてください。中途半端に取り付けると接触不良を起こし、発煙や発火の原因となるおそれがあります。

運用中の注意事項

<u></u> 注意



ラックから引き出したり取り外したりしない

本機をラックから引き出したり、ラックから取り外したりしないでください。装置が正しく動作しなくなるばかりでなく、ラックから外れてけがをするおそれがあります。





雷がなったら触らない

雷が鳴りだしたら、ケーブル類を含めて本機には触れないでください。また、機器の接続や取り外しも行わないでください。落雷による感電のおそれがあります。





ペットを近づけない

本機にペットなどの生き物を近づけないでください。排泄物や体毛が装置内部に入って火災や感電の原因となります。





光ディスクドライブのトレーを引き出したまま放置しない

引き出したトレーの間からほこりが入り誤動作を起こすおそれがあります。また、トレーにぶつかりけが をするおそれがあります。





動作中に装置をラックから引き出さない

本機が動作しているときにラックから引き出したり、ラックから取り外したりしないでください。装置が 正しく動作しなくなるばかりでなく、ラックから外れてけがをするおそれがあります。





装置の上にものを載せない

本機がラックから外れてけがや周辺の家財に損害を与えるおそれがあります。





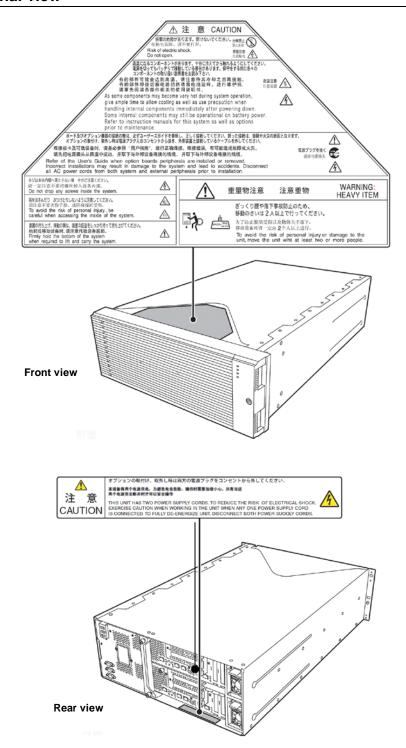
巻き込み注意

本機の動作中は背面にある冷却ファンの部分に手や髪の毛を近づけないでください。手をはさまれたり、 髪の毛が巻き込まれたりしてけがをするおそれがあります。

Warning labels

Warning label are attached on or near the components with potential hazards to draw attention from users to potential hazards involved in handling the server. This label is either attached or printed on the component. Do not remove or black out this label and keep it clean. If no label is attached or printed on the server, or if there is a label coming off or stained, contact your sales representative.

External view



Handling precautions

Be sure to observe the following precautions for the proper functioning of the server. Ignoring the precautions may cause server malfunction or failure.

Installation site

- Install the server in an appropriate place. See Chapter 2 Preparations (2. Installation and Connection).
- Do not use any cell phone or PHS and switch off them near the server. Electric waves from such devices can cause server to malfunction.
- Regularly clean the server to prevent various types of failure. Refer to *Chapter 1 Maintenance (2. Daily Maintenance)* in "*Maintenance Guide*" for details about cleaning.
- When you store the server for a long time period, keep it under storage environment conditions (Temperature: -10 to 55°C, Humidity: 20 to 80%, non-condensing).
- Turn off the server and unplug the power cord before moving it.
- In the following cases, check and adjust the system clock before operation.
 - After transportation
 - After storage
 - After the server is used following a period of disuse, in which storage conditions did not conform to those that guarantee server operations (temperature 10 to 35°C, humidity 20 to 80%)
- Check the system clock approximately once per month. Use of a time server (NTP server) is recommended if high accuracy timing is required by the system.

Power supply

- Connect the provided power cord to a 100 VAC outlet.
- Connect the dedicated power cord to a 200 VAC outlet.
- Uninterruptible Power Supply (UPS) is used for preventing the momentary voltage drop.
 The server does not support UPS connection through the serial port (RS-232C) and power control by PowerChute Plus.

Power-on/Power-off

- Wait for at least 30 seconds before turning on the server after connecting the power cord to the outlet.
- If UPS is connected, set the schedule to wait for at least 30 seconds before turning on the server.
- Do not press POWER Switch to turn on the server while POWER LED lights amber.
- Do not power off or reset the server, nor disconnect the power cord before POST completes.
- Make sure that the access LED is off before turning off the power or ejecting an optical disk.
- Wait for at least 30 seconds before turning on the server after turning off the server.
- When disconnecting power cord from outlet, wait at least 30 seconds before connecting the power cord.
- For stable operation, it is recommended to restart OS after the system has been duplexed.

Option devices

- We do not guarantee reproduction of copy-protect DVDs and CDs using reproduction equipment if such disks do not comply with the standards.
- If this server, internal optional devices, and media set for the backup devices (tape cartridges) are moved
 from a cold place to a warm place in a short time, condensation will occur and cause malfunctions and
 failures when these are used in such state. To protect important stored data and property, make sure to wait
 for a sufficient period to use the server and components in the operating environment.

Reference: Time effective at avoiding condensation in winter (more than 10°C differences between the room temperature and atmospheric temperature)

Disk devices: Approximately 2 to 3 hours

Tape media: Approximately 1 day

 For optional devices, we recommend you use our NEC products. Even if they are successfully installed or connected, installation of unsupported devices can cause the server to malfunction or even failure. You will be charged to repair failure or damage caused by use of such products even within warranty period.

Anti-static measures

The server contains electronic components sensitive to static electricity. Observe the following precautions to avoid failures caused by static electricity when installing or removing any optional devices.

• Wearing Anti-static Wrist Strap or Anti-static Gloves

Wear an anti-static wrist strap or anti-static gloves before starting work. If no wrist strap is available, discharge static electricity from your body by touching an unpainted metal part of the chassis which is grounded. Touch a metal part regularly when working with the server to discharge static electricity.

- · Checking the Workplace
 - Work with the server on the anti-static or concrete floor.
 - If you work with the server on a carpet where static electricity is likely to be generated, be sure to take anti-static measures beforehand.
- · Using the Work Table

Place the server on an anti-static mat to work with.

- Clothing
 - Do not wear wool or synthetic clothes.
 - Wear anti-static shoes.
 - Take off any jewels, a ring, bracelet, or wrist watch before working with the server.
- · Handling of components
 - Keep any component in an anti-static bag until the installation.
 - Hold any component by its edge to avoid touching any terminals or parts.
 - To store or carry any component, place it in an anti-static bag.
- · Handling of cable

Discharge the static electricity of cables, such as LAN cable, before connecting to the server by using ionizer or the like. Consult with your sales representative for apparatus to discharge static electricity.

• Installing/removing optional devices

Optional devices also contain electronic components sensitive to static electricity. To avoid malfunction of the device, discharge static electricity from your body.

Tips for your health and safety

Using a computer extensively may affect different parts of your body. Here are tips you should follow while working on a computer to minimize strain on your body.

Keep proper posture

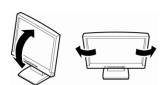
The basic body position for using a computer is sitting straight with your hands on the keyboard parallel with the floor, and your eyes directed slightly downward toward the monitor. With the proper posture described above, no unnecessary strain is applied on any part of your body, in other words when your muscles are most relaxed.

Working on the computer with bad posture such as hunching over or being too close to the monitor could cause fatigue or deteriorated eyesight.



Adjust the angle of your display

Most display units are designed for adjustment of the horizontal and vertical angles. This adjustment is important to prevent the screen from reflecting bright lights and to make the display contents easy to see. Working without adjusting the display to a comfortable angle makes it difficult for you to maintain a proper posture and you will get tired easily. Adjust the viewing angle before use.



Adjust the brightness and contrast of the display

Display screens have functions to control brightness and contrast. The most suitable brightness/contrast depends on age, individuals, and environment, so adjust it to suit your preferences. A too bright or too dark display is bad for your eyes.



Adjust the angle of keyboard

Some keyboards are ergonomically designed, which allow the angle to be adjusted. Adjusting the angle of the keyboard is effective to reduce tension on your shoulders, arms, and fingers.



Clean your equipment

Keeping your equipment clean is important not only for the appearance but also for functional and safety reasons. A dusty monitor makes it difficult to see the display contents, so clean it regularly.

Take rest breaks

When you feel tired, take a break. Light exercise is also recommended.



1

General Description

This chapter introduces the features of this server and the name of each part.

1. Preface

2. Accessories

Describes the server's accessories.

3. Standard Features

Describes the server's features and the system management.

4. Names and Functions of Components

Describes the name of each part contained in this server.

1. Preface

Welcome to the NEC Express5800 Series product.

This server is a "fault-tolerant (ft)" server focusing on "high reliability" in terms of fault-tolerance, in addition to "high performance", "scalability", and "general versatility" provided by Express5800 series.

In the event of trouble, its dual configuration will allow the system to instantaneously isolate the failed parts to assure non-stop running; operation will be moved smoothly from one module to the other, minimizing damage to it. You can use this server in a mission-critical system where high availability is required. By the use of Windows/Linux/VMware operating system, it also provides outstanding openness for general-purpose applications, etc.

To make the best use of these features, read this User's Guide thoroughly to understand how to operate the server.

2. Accessories

The carton box contains various accessories which are required for setup or maintenance. Make sure you have them all for future use.

- Front bezel
- Bezel lock key (attached to front bezel)
- **EXPRESSBUILDER *1**
- **Getting Started**
- *1 Instruction manuals are stored in EXPRESSBUILDER. Adobe Reader is required to read or print them.

Make sure you have all accessories according to Packing List in the accessory box. If an accessory is missing or damaged, contact your sales representative.

Important The chassis serial number plate and maintenance label is located on the server. If the serial number does not match the number on the warranty, you may not be guaranteed against failure even within the warranty period. Contact your sales representative if they do not match.

3. Standard Features

3.1 Features of the Server

The server contains two server modules in one enclosure. Each module has the following features:

High performance

• Intel[®] Xeon[®] processor

Express5800/R320c-E4:
Express5800/R320c-M4:
Express5800/R320d-E4:
Express5800/R320d-E4:
Express5800/R320d-M4:
E5-2670 (2.6GHz, 8 cores)
E5-2620v2 (2.1GHz, 6 cores)
E5-2670v2 (2.5GHz, 10 cores)

- High-speed memory access (DDR3 1066/1333/1600 supported)
- High-speed disk access (SAS 6Gbps supported)
- High-speed Ethernet

1000BASE-T/100BASE-TX/10BASE-T (2 ports) interface (1Gbps/100Mbps/10Mbps supported)
10GBASE-T/1000BASE-T/100BASE-TX (2 ports) interface (10Gbps/1Gbps/100Mbps supported)
(Express5800/R320c-M4,R320d-M4 only)

High reliability

- Memory monitoring feature (error correction/error detection)
- · Bus parity error detection
- Temperature detection
- Error detection
- Internal fan monitoring feature
- · Internal voltage monitoring feature
- BIOS password feature
- · The security lock that comes with Front Bezel

Management Utilities

- NEC ESMPRO
- System BIOS/firmware management feature (ExpressUpdate for Windows)
- Remote management feature (EXPRESSSCOPE Engine 3)
- Hard disk drive monitoring

Power saving

- · Power monitoring feature
- 80 PLUS® Platinum certified high efficiency power supply
- Fan control appropriate to environment, work load, and configuration

Expandability

· Option slots

Express5800/R320c-E4, R320d-E4: PCI Express 2.0 (x4 lanes): 2 slots (Low profile)
Express5800/R320c-M4, R320d-M4: PCI Express 2.0 (x4 lanes): 2 slots (Low profile)
PCI Express 2.0 (x8 lanes): 2 slots (Full Height)

- Large capacity memory of up to 256GB
- Can upgrade to multi-processor system with up to two processors
- Expansion Bay (for 2.5-inch hard disk drives): 8 slots
- · Optical disk drive bay provided as standard
- USB2.0 interface (Front: 1 port, rear: 3 ports)
- Onboard LAN

Express5800/R320c-E4, R320d-E4: 2 ports Express5800/R320c-M4, R320d-M4: 4 ports

Management LAN port (1 port)

Ready to use

• No cable connection is required to install a hard disk drive (hot swap supported).

Many built-in Features

- El Torito Bootable CD-ROM (no emulation mode) format supported
- · Software power-off
- · Remote power-on feature
- · AC-Link feature
- Power switch mask
- Baseboard Management Controller (BMC) conforming to IPMI v2.0

Self-diagnosis

- Power On Self-Test (POST)
- Test and Diagnosis (T&D) utility

Easy setup

- EXPRESSBUILDER (setup utility)
- SETUP (BIOS Setup utility)

Maintenance features

- Off-line Tools
- Memory dump feature using DUMP Switch
- Feature to back up and restore BIOS/BMC configuration information for Windows

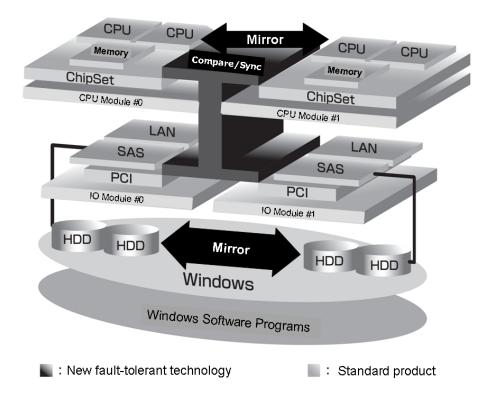
3.2 Fault-Tolerant Features

Hardware modules work while synchronizing and comparing with each other. Even if one hardware module stops, the server can continue its operation as the service with the other hardware module.

Major components are duplexed:

Even if one hardware module stops, the server can continue operation with the other module.

After the failed module is replaced, the new module obtains information from the other and resume operation.



This server is a highly fault-tolerant server that achieves continuous computing operations, data storage mirror, and continuous network connection. It allows you to run Windows/Linux/VMware Server-based applications.

This server achieves continuous computing operations for the Windows/Linux/VMware server and server-based applications with its redundant CPU processing and redundant memory. It assures data redundancy through duplication of server data on an independent storage system. These features eliminate server downtime that is usually caused by network disconnection or trouble with the I/O controller, network adapter or disk drive, and support operation of the network and server applications continuously.

This server detects status changes, errors, the Windows/Linux/VMware Log of these events. If you use an alarm notification tool, you can configure this server to notify you when certain events occur.

NEC ESMPRO is installed on the system as a server management solution. NEC ESMPRO, a GUI-based management tool, allows you to monitor, view, and configure the server. This tool also supports both local and remote management of the server.

(a) Advantages of this server

Highly fault-tolerant processing and I/O subsystems

This server uses redundant hardware and software to assure server operation even if one module suffers trouble with its processor, memory, I/O (including trouble related to the I/O controller), disk drive, or network adapter.

Continuous network connection

This server maintains continuous network connection by detecting any trouble with the network adapter, connection, etc. If trouble occurs, the standby network connection will take over all network traffic processing and thus securely maintain the network system connection of the server without losing network traffic or client connection.

• Support of multiple network connections

Since this server can support multiple network connections, you can add network redundant control or network traffic control.

• No need to modify applications

You can run Windows/Linux/VMware-compliant applications on this server. Thus, unlike other highly fault-tolerant products, special API or scripts are not necessary.

• Automatic mirroring

This server automatically maintains data as the current data.

Transparent migration

This server constantly monitors events. If trouble occurs on server module of this server, it will transparently use a redundant module of the failed module. This feature maintains data and user access without stopping application service.

• Automatic reconfiguration

When the failed module restarts after the trouble is corrected, the server will perform reconfiguration automatically, and if necessary, resynchronize the affected modules. Reconfiguration can include CPU processing (e.g., CPU memory), server's operating system (and related applications), and system data stored on the hard disk drives. In most cases, the server automatically restores redundancy of the server modules after recovery.

Event notification function for Windows

When trouble or other events are detected on the server, they will be notified to Windows Event Log and saved. Therefore, you can view the log items locally or remotely by a usual Windows procedure. Since an events use unique IDs, they are easy to distinguish. In addition, you can use alert notification software such as Express Report Service or Express Report Service (HTTPS) to manage the server. It is recommended to use such software to cope with system failure quickly. Ask your service representative for details.

syslog function for Linux or VMware

When trouble or other events are detected on the server, they will be notified to syslog and saved. In addition, you can use alert notification software such as Express Report Service to manage the server. It is recommended to use such software to cope with system failure quickly. Ask your service representative for details.

• In-service repairing

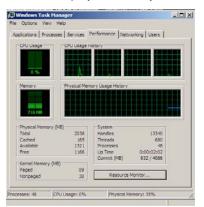
You can repair or replace a failed module even if the server is operating.

How the Operating System Recognizes the CPU Modules (Windows Server 2008 model)

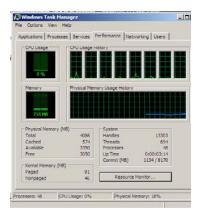
On this server, the CPU modules are redundantly configured and all processors installed on this server are shown as follows.

How CPU modules appear on Task Manager

Logical CPUs are displayed as many as there are.



System with one CPU (Quad-Core)



System with two CPUs (Quad-Core)

The above are screens when Express5800/R320c-E4 is used.

For Express5800/R320c-M4, up to 16 logical CPUs are displayed in the one-CPU configuration, and up to 32 logical CPUs are displayed in the two-CPU configuration.

For Express5800/R320d-E4, up to 12 logical CPUs are displayed in the one-CPU configuration, and up to 24 logical CPUs are displayed in the two-CPU configuration.

For Express5800/R320d-M4, up to 20 logical CPUs are displayed in the one-CPU configuration, and up to 40 logical CPUs are displayed in the two-CPU configuration.

3.3 Management Features

NEC ESMPRO Agent stored in EXPRESSBUILDER (Windows) or NEC ESMPRO Agent (VMware or Linux) stored in ft control software Install DVD or CD, enables you to collectively manage the state of your systems. You can also monitor the server states from a management PC on network where NEC ESMPRO Manager is installed.

The features available on this server are as shown in the table below.

Function		Availability	Description
Hardware			Shows physical hardware information.
	Memory bank	Δ	Shows physical memory information.
	Device info	Δ	Shows information specific to the server.
	CPU	Δ	Shows physical CPU information.
System		0	Shows logical CPU information and monitors the load factor. Shows logical memory information and monitors the status.
I/O device		0	Shows information on I/O devices (serial ports, keyboard, mouse, and video).
System			Monitors temperatures, fans, voltage, power supply, and others.
environment	Temperature	Δ	Monitors the temperature inside of the chassis.
	Fan	Δ	Monitors the fans.
	Voltage	Δ	Monitors the voltage inside of the chassis.
	Power supply	Δ	Monitors the power supply unit.
	Cover / Door	X	Monitors Chassis Intrusion (open/close state of chassis cover or door).
Software		0	Shows service, driver, and OS information.
Network		0	Shows network (LAN) information and monitors packets.
BIOS		Δ	Shows BIOS information.
Local polling		0	Monitors the values of MIB items obtained by NEC ESMPRO Agent.
Storage		×	Monitors controllers and storage devices including hard disk drives.
File system		0	Shows the file system configuration and monitors the free space.
Others*		×	Monitors OS stall using the Watch Dog Timer.
		Δ	Performs alert processing after an OS STOP error occurs.

 $[\]bigcirc$: Supported. \triangle : Supported on Windows/Linux OS. \times : Unsupported.

Tips

NEC ESMPRO Manager and NEC ESMPRO Agent are supplied with the server as standard. For how to install and use each software component, refer to the explanation of the component.

^{*:} Not displayed on the NEC ESMPRO Manager screen.

3.4 Firmware and Software Version Management for Windows

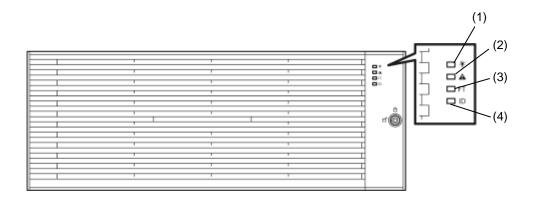
Use of NEC ESMPRO Manager and ExpressUpdate Agent allows you to manage versions of firmware and software as well as update them by applying update packages.

This feature automatically updates modules without stopping the system just by specifying the updating packages from NEC ESMPRO Manager.

4. Names and Functions of Components

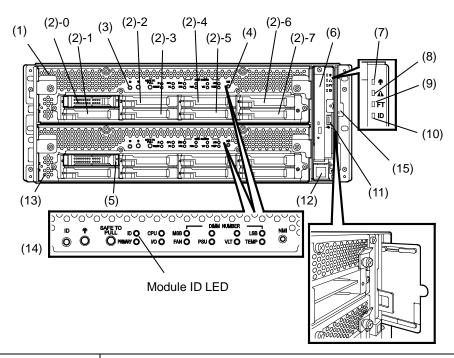
Names and functions of components are shown below:

4.1 Front View



(1) System POWER LED	Goes on green when either of the powers of the CPU/IO modules is on. The
	LED goes off when both powers of CPU/IO module are off.
(2) System FAULT LED	Goes on amber if one of the CPU/IO modules fails. You can know the details
	by checking (14) EXPRESSSCOPE. The LED also goes on amber if the
	failed CPU/IO module cannot be identified.
(3) System FT LED	Displays the device status:
	Green: operating under duplex condition
	Off: not in duplex condition
	Blinking in green: running Active Upgrade (Windows 2008 model only)
(4) System ID LED	Identifies the device to maintain.
	Blue: UID switch was pressed.
	Blinking in blue: The software command was sent from remote terminal.

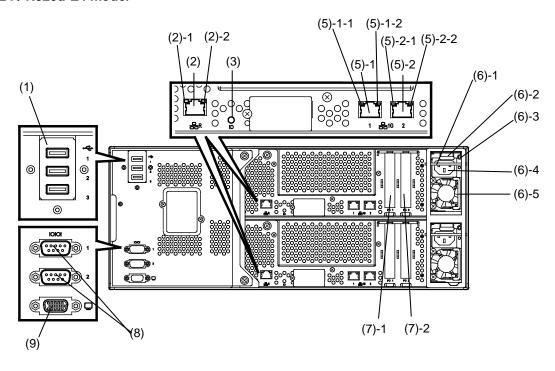
4.2 Front View (Without Front Bezel)



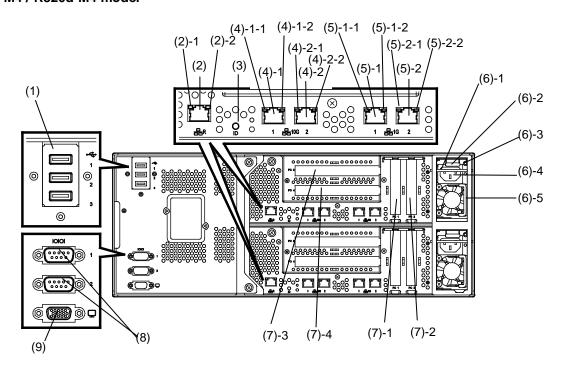
(1) CPU/IO module 0	Installs CPU (processor), memory (DIMM), PCI card, cooling fan, and hard disk drive.
(2) Hard disk drive bay	Installs hard disk drives. The last-digit number indicates a slot number.
(3) UID (Unit ID) switch	Turns on/off the Module ID LED on the front of the device. When pressing the switch once, Module ID LED lights and it goes off when pressing it again.
(4) Dump (NMI) switch	Performs the memory dump when pressing the button of primary CPU/IO module for 4 to 8 seconds.
(5) Disk access LED	Lights/blinks while accessing the installed hard disk drives.
(6) Optical disk drive	Reads data from DVD or CD-ROM.
(7) System POWER LED	Lights in green when one of the powers of the CPU/IO modules is on. LED goes off when both powers of CPU/IO module are off.
(8) System FAULT LED	Goes on amber if one of the CPU/IO modules fails. You can know the details by checking (14) EXPRESSSCOPE. The LED also goes on amber if the failed CPU/IO module cannot be identified.
(9) System FT LED	Displays the device status: Green: operating under duplex condition Off: not in duplex condition Blinking in green: running Active Upgrade (Windows 2008 model only)
(10) System ID LED	Identifies the device to maintain. Blue: UID switch was pressed. Blinking in blue: The software command was sent from remote terminal.
(11) USB connector	Connects to the device supporting USB interface.
(12) Power switch	Turns on/off the power. When pressing it once, the power turns on. When pressing it again, the power turns off. Forced shutdown takes place when pressing it for 4 seconds or longer.
(13) CPU/IO module 1	Installs CPU (processor), memory (DIMM), PCI card, cooling fan unit, and hard disk drive. The names of each part are the same as CPU/IO module 0.
(14) EXPRESSSCOPE	Indicates the status of CPU/IO modules. Lights or flashes green or amber.
(15) SLIDE-TAG	The product number and serial number are printed on this tag.

4.3 Rear View

R320c-E4 / R320d-E4 model

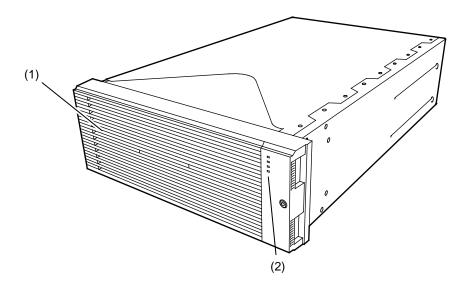


R320c-M4 / R320d-M4 model



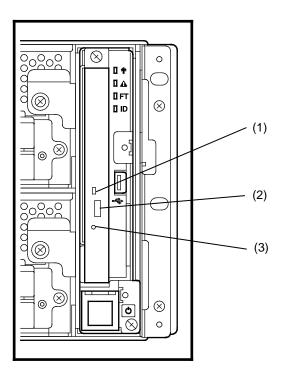
(1) USB connector (3 ports)	Connects to the device supporting USB interface.	
(2) Management LAN port	Connects to the network connector supporting 100BASE-TX/10BASE-T interface. (2)-1 LINK/ACT LED (2)-2 SPEED LED	
(3) Module ID LED	Identifies the module to maintain. This LED goes on green when UID switch is pressed. This LED blinks green when remote command is received.	
(4) 10G LAN connector	Connects to the network connector supporting 10000BASE-T/1000BASE-TX/100BASE-T. (4)-1 LAN1 (4)-1-1 LINK/ACT LED (4)-1-2 SPEED LED (4)-2 LAN2 (4)-2-1 LINK/ACT LED (4)-2-2 SPEED LED	
(5) 1G LAN connector	Connects to the network connector supporting 1000BASE-T/100BASE-TX/10BASE-T. (5)-1 LAN1 (5)-1-1 LINK/ACT LED (5)-1-2 SPEED LED (5)-2 LAN2 (5)-2-1 LINK/ACT LED (5)-2-2 SPEED LED	
(6) Power unit	Supplies the power. (6)-1 Stopper Lever for the CPU/IO module not to be disconnected from the power cord connected. Ensure that the bar is not unset to remove CPU/IO module. (6)-2 Ejector (6)-3 Power Unit LED (6)-4 AC inlet Socket to connect power code. Connect power cord to the inlet of CPU/IO module first which is desired to be primary. (6)-5 Handle	
(7) PCI slot	Installs an optional PCI card. (7)-1 Slot 1 (7)-2 Slot 2 (7)-3 Slot 3 (R320c-M4, R320d-M4 model only) (7)-4 Slot 4 (R320c-M4, R320d-M4 model only)	
(8) Serial Port for maintenance (COM)	Connects to the serial port. This uses by maintenance purpose only. Do not use this port usually.	
(9) Monitor connector	Connects to a display.	

4.4 External View



(1) Front bezel	The cover to protect devices in the front.
(2) LEDs	For more information, see Chapter 1 (4.8 LEDs).

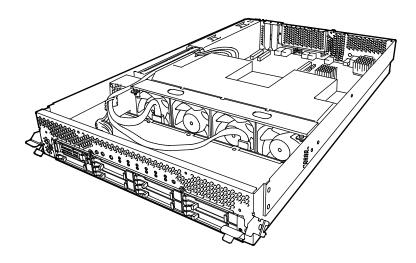
4.5 Optical Disk Drive



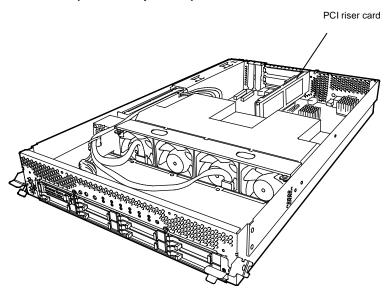
(1) Status LED	Lights while accessing the loaded optical disk.
(2) Tray eject button	Ejects the tray.
(3) Emergency hole	If the tray eject button fails to eject tray, insert a metal pin into this hole to
	forcibly eject the tray.

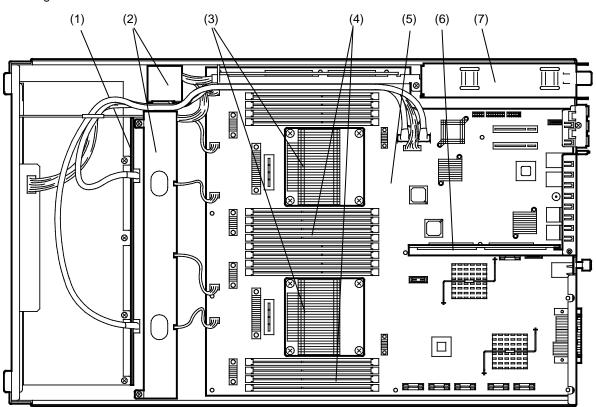
4.6 CPU/IO Module

R320c-E4 / R320d-E4 model (without top cover)



R320c-M4 / R320d-M4 model (without top cover)



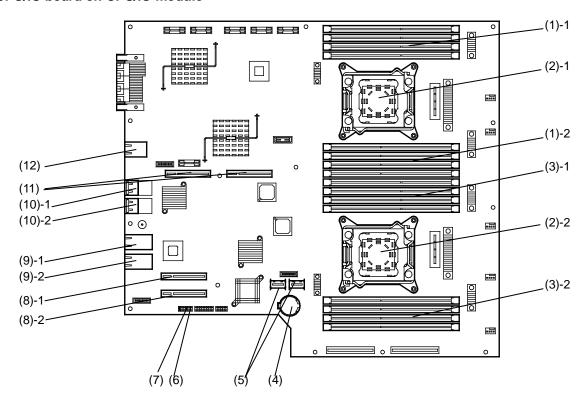


The figure below shows internal view of CPU/IO module without ducts.

(1) HDD BP (Backplane)	
(2) Cooling fan	
(3) Processor (CPU)	Mounted below the heat sink.
(4) DIMM	Option
(5) CPU/IO board	
(6) PCI Riser card	R320c-M4, R320d-M4 only
(7) Power unit	

4.7 CPU/IO Board

CPU/IO board on CPU/IO module

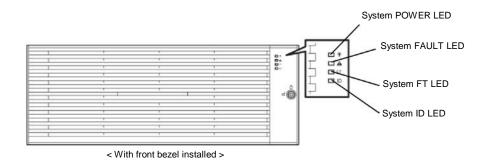


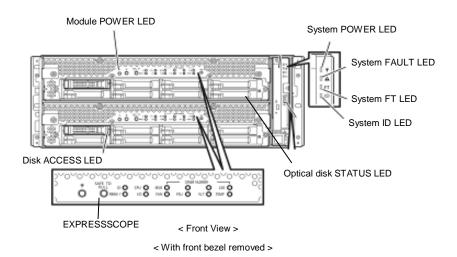
(1) DIMM slot	(1)-1 DIMM1 to DIMM4 from top (1)-2 DIMM8 to DIMM5 from top
(2) Processor (CPU) socket	(2)-1 Processor #1(CPU#1) (2)-2 Processor #2(CPU#2)
(3) DIMM slot	(3)-1 DIMM9 to DIMM12 from top (3)-2 DIMM16 to DIMM13 from top Available only when CPU#2 is installed.
(4) Lithium battery	
(5) HDD BP connector	
(6) CMOS Clear jumper	See Chapter 1 (9.3 Clearing BIOS Settings (CMOS Memory)) or Chapter 1 (10.3 Clearing BIOS Settings (CMOS Memory)) in Maintenance Guide.
(7) Password Clear jumper	See Chapter 1 (9.3 Clearing BIOS Settings (CMOS Memory)) or Chapter 1 (10.3 Clearing BIOS Settings (CMOS Memory)) in Maintenance Guide.
(8) Connector for PCle card	(8)-1 PCl slot #1 (8)-2 PCl slot #2
(9) 1G LAN connector	(9)-1 LAN1 (9)-2 LAN2
(10) 10G LAN connector	(10)-1 LAN1 (10)-2 LAN2
(11) Connector for PCI riser card	Used for R320c-M4, R320d-M4 model only.
(12) Management port	

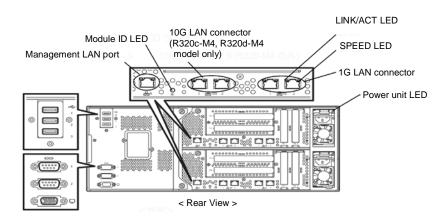
4.8 LEDs

The figures below show the location of LEDs on server.

For details, see Chapter 1 (6.1 Error Messages by LED Indication) in Maintenance Guide.







NEC Express5800 Series Express5800/R320c-E4, R320c-M4, R320d-E4, R320d-M4

2

Preparations

This chapter describes preparations for using this server.

1. Installing Internal Optional Devices

Describes how to install or remove optional devices.

2. Installation and Connection

You must place the server in a suitable location and connect some cables following this section.

1. Installing Internal Optional Devices

Refer to Chapter 2 (5. Installing Optional Devices) in Maintenance Guide for how to install internal option devices.

You do not need to provide any settings for software.

Important

- We recommend that optional devices be installed by a maintenance service staff from your maintenance service company authorized by NEC.
- Use only the devices and cables specified by NEC. You will be charged to repair damages, malfunctions, and failures caused by the use of any devices or cables not specified for use with this server even within the warranty period.

2. Installation and Connection

This section describes procedure to install the server and connect to peripheral devices.

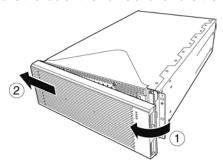
2.1 Installing/removing the front bezel

When you power on/off the server, handle the optical disk drive, or remove/install a hard disk drive or CPU/IO module, remove the front bezel.

Removal

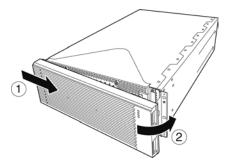
Insert the provided security key (bezel lock key) into the key slot and push lightly. Turn the key to the left to unlock.

- 1. Hold the right edge of the front bezel and pull it forward.
- 2. Slide the front bezel to take the tab off the frame and remove the front bezel.



Installation

- 1. Engage the left tab with the server's frame.
- 2. Push the right side or the frame to mount it.



Rack

This server must be mounted to a rack which conforms to EIA standards.

2.2.1 Installing Rack

Refer to the manual that comes with your rack for how to install the rack, or consult with your sales representative.

WARNING





Be sure to observe the following precautions to use the server safety. Failure to observe the precautions may cause death or serious injury. For details, see Safety precautions in Precautions for Use.

- Use only in the specified environment.
- Do not connect the ground wire to a gas pipe.

A CAUTION

Be sure to observe the following precautions to use the server safely. Failure to observe the precautions may cause burns, injury, and property damage. For details, see Safety precautions in Precautions for Use.







- Do not carry or install the server only by a single person.
- Remove the CPU/IO module from the server before moving the server.
- Do not install the server so that the load may be concentrated on a specific
- Do not install any components only by a single person.
- Confirm that hinge pins of the door are completely secured in place.
- Do not pull out the CPU/IO module from the rack when the rack is unstable.
- Do not provide the wiring for the server to exceed the rating of the power supply.
- Do not use the server in the environment where corrosive gas is generated.

Do not install the rack or server under the following environment. Doing so may cause malfunction of the server.

- Narrow space from which devices cannot be pulled out from the rack completely
- · Place that cannot bear the total weights of the rack and devices mounted on the rack
- Place where stabilizers cannot be installed or where the rack can be installed only after the practice of proper earthquake-resistant construction
- Place of uneven or slanting floor
- Place of drastic temperature change (near a heater, air conditioner, or refrigerator)
- Place where intense vibration may be generated
- Place where corrosive gases (sulfur dioxide, hydrogen sulfide, nitrogen dioxide, chlorine, ammonia, ozone, etc) exist
 - Place where the air (or dust) includes components accelerating corrosion (ex. sulfur, sodium chloride) or conductive metals
- · Place where chemicals may be accidentally sprayed over
- · Place where a carpet not subject to anti-static process is laid
- Place where some objects may be fallen on the rack
- Place near a device generating intense magnetic field (such as TVs, radios, broadcast/communication antennas, power transmission wires, and electromagnetic cranes) is placed (If unavoidable, contact your maintenance service company for proper shield construction.)
- Place where the power cord of the server must be connected to an AC outlet that shares the outlet of another device with large power consumption
- Place near equipment that generates power noise (e.g., contact spark at power-on/power-off of commercial power supply through a relay). If you must install the server close to such equipment, have your maintenance service company separate power cables or install noise filter.
- Environment where operation of the server is not guaranteed (e.g., power supply, ambient temperature, and/or humidity)

Tips

See Appendix (1. Specifications) for details.

2.2.2 Installing the server to the rack

Mount the server to the rack.

WARNING





Be sure to observe the following precautions to use the server safety. Failure to observe the precautions may cause death or serious injury. For details, see Safety precautions in Precautions for Use.

- Do not use any racks out of standards.
- Use only under the specified environment.

A CAUTION

Be sure to observe the following precautions to use the server safely. Failure to observe the precautions may cause burns, injury, and property damage. For details, see Safety precautions in Precautions for Use.







- Do not drop the server.
- 4U chassis weighs about 10 kgs. At least two persons are required to install
- CPU/IO module weighs about 18 kgs. At least two persons are required to install it.
- Do not leave the CPU/IO module of the server being pulled out.
- Do not install the CPU/IO module with its cover removed.
- Do not get your fingers caught.

Important

Temperature increases and airflow in the rack

If multiple devices are installed, or if the inside of the rack is not sufficiently ventilated, the internal temperature rises due to the heat emitted from each device, which may result in a malfunction. Review airflow in the rack and room and take sufficient measures so that the internal temperature will not exceed the operational temperature during operation.

Air enters the server from the front and exits from the rear.

This server can be mounted to a rack made by NEC or other companies. Mount the server to a rack in the following procedure.

Checking accessories

The following are the required accessories. Check if you have them all.

Bracket: 2
Washer for panhead screw: 4
Flat-head screw: 8
Panhead screw: 8

Core nuts (4 pieces) are not included. Use the core nuts provided with the rack.

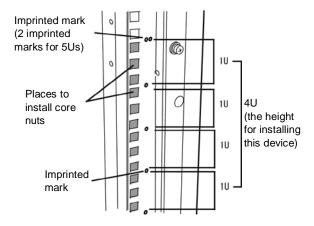
Checking the place to install

Decide the place (height) to install.

Next to the square hole of the rack, an imprinted mark is placed for 1U (This is the unit to show the height of the rack). This device is as high as 4U (about 176 mm), so install it between the imprinted marks that indicate the height of 4U.

Note

To keep balance, install the device as low as you can on the rack.



Installing the chassis

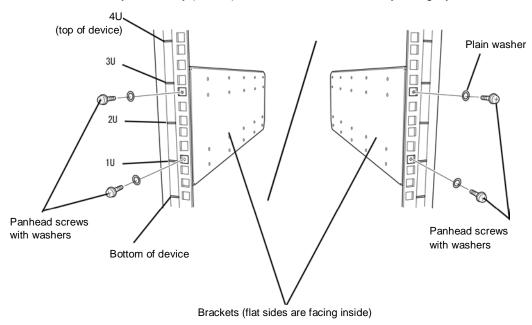
Follow the steps below to set the 4U chassis to the rack.

1. If the rack has front and rear doors, open them.

Tips Refer to the instruction manual that comes with the rack.

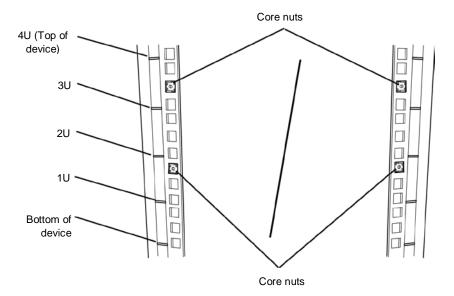
2. Install the brackets from the rear side of the rack.

Install the brackets with its flat side facing inside. Place them with the panhead screws with washers that come with the device symmetrically (total: 4). Fasten the screws tentatively not tightly.



3. Fix the core nuts to the front side of the rack.

Attach them symmetrically (total: 4 core nuts).

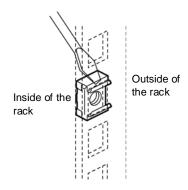


Fix a core nut from inside of the rack.

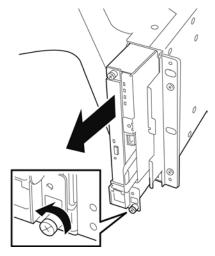
Hook either of the clips of the core nut to a square hole of the rack, and hook the other clip to a hole by a flat-blade screwdriver.

Note

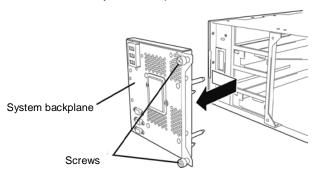
Make sure that the core nuts on left and right sides are level.



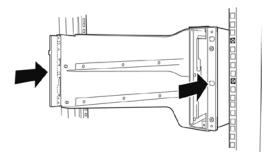
- 4. Remove two CPU/IO modules from the chassis.
- 5. Loosen the screw, and remove the DVD drive unit from the chassis.



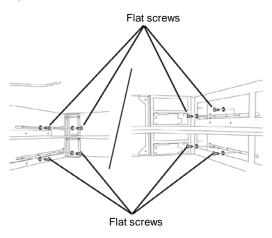
6. Loosen the screw, and remove the system backplane from the chassis.



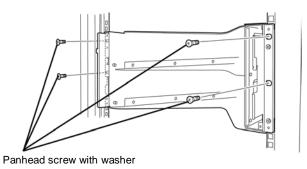
7. Insert the chassis from the front side of the rack.



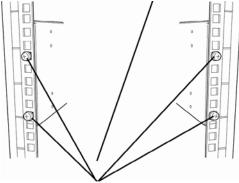
8. Tentatively fasten the flat screws attached to the device to the 4 places at the top and the bottom on front, and back sides (total: 8) from the rear of the rack.



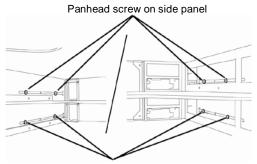
9. Fasten tightly the pan-head screws attached to the device to each 2 places, right and left (total 4) from the front.



10. Fasten tightly the 4 pan-head screws on the rear side and the 8 flat screws on the side panels (which you fastened tentatively).

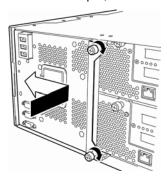


Panhead screw on rear



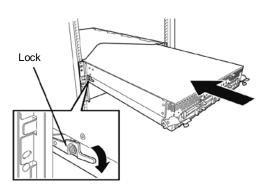
Panhead screw on side panel

11. Mount the System Backplane removed in Step 6, and secure it with screws.

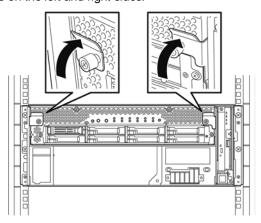


- 12. Mount the DVD drive unit removed in Step 5, and secure it with screws.
- 13. Mount the CPU/IO module 0 removed in Step 4.

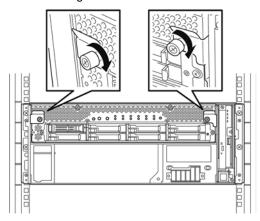
Tips Mount the module while lowering the lock.



14. Raise the lock levers on the left and right sides.



15. Fasten the levers on the left and right sides with screws.



16. Mount the CPU/IO module 1 in the same way as described in Steps 13 through 15.

2.2.3 Removing the device from the rack

Remove the server from the rack in the following procedure.

A CAUTION



Be sure to observe the following precautions to use the server safely. Failure to observe the precautions may cause burns, injury, and property damage. For details, see *Safety precautions* in *Precautions for Use.*

- Do not drop the server.
 - 4U chassis weighs about 10 kgs. At least two persons are required to install it.
 - CPU/IO module weighs about 18 kgs. At least two persons are required to install it.
 - . Do not leave the CPU/IO module of the server being pulled out.
 - Do not get your fingers caught.

Follow the steps below and unmount the device from the rack.

- Check that the server is powered off, and remove all the power cords and interface cables from the server.
- 2. Remove the front bezel.
- 3. Loosen the screws on the left and right sides of the front panel of the CPU/IO module and release the lock by pulling the ejector toward you.
- 4. Pull out the CPU/IO module carefully from the rack.

Important

- When you pull out the device, do not load anything on its top. It is dangerous, since the device becomes unstable and it may fall.
- Do not hold the handle on the front side or the convex part on the back side. To move the device, hold the bottom.
- Since the device is locked and cannot be pulled out, pull it out after releasing the lock by lowering the lock on the side of the CPU/IO module.
- 5. Hold firmly the chassis and remove it from the rack,

Tips

To remove the mechanical component of the rack, see Chapter 2 (2.2.2 Installing the server to the rack).

Tower Conversion Kit (N8843-004)

By using the tower conversion kit N8843-003, you can install the rack-mount model of the server without using the dedicated rack.

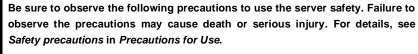
2.3.1 Installing the Tower Conversion Kit

You may ask your maintenance personnel to install the tower conversion kit.

WARNING











- Use only under the specified environment.
- Do not connect the ground wire to a gas pipe

A CAUTION

Be sure to observe the following precautions to use the server safely. Failure to observe the precautions may cause burns, injury, and property damage. For details, see Safety precautions in Precautions for Use.







- Do not carry or install the server only by a single person.
- Remove the CPU/IO module from the server before moving the server.
- Do not install the server so that the load may be concentrated on a specific
- Do not install any components only by a single person.
- Do not pull out the CPU/IO module from the rack when the tower conversion kit is unstable.
- Do not leave the CPU/IO module of the server being pulled out from tower conversion kit.
- Do not provide the wiring for the server to exceed the rating of the power supply.
- Do not use the server in the environment where corrosive gas is generated.

Do not install the tower conversion kit in such places as listed below. Otherwise, the server may malfunction.

- Narrow space from which devices cannot be pulled out from the tower conversion kit completely
- Place that cannot bear the total weights of the devices mounted on tower conversion kit
- Place where stabilizers cannot be installed or where the tower conversion kit can be installed only after the practice of proper earthquake-resistant construction
- Place of uneven or slanting floor
- Place where temperatures change widely (near a heater, air conditioner, or refrigerator).
- Place that is subject to intense vibration.
- Place where corrosive gas (sodium chloride, sulfur dioxide, hydrogen sulfide, nitrogen dioxide, or ozone) is generated, or a place that is close to chemicals or exposed to chemicals.
- · Place where chemicals may be accidentally sprayed over
- Place whose floor is covered with non-antistatic carpet.
- Place that may be subject to falling objects.
- Place that is close to some equipment that generates intense magnetic field (e.g., TV set, radio, broadcasting/communications antenna, power transmission wire, and electromagnetic crane). (If unavoidable, contact your sales agent to request proper shield construction.)
- Place where the power cord of the server must be connected to an AC outlet that shares the outlet of another device with large power consumption.
- Place that is close to some equipment that causes power noises (e.g., sparks caused by power-on/off using a relay). If you must install the server close to such equipment, request your sales agent for separate power cabling or noise filter installation.
- Environment where operation of the server is not guaranteed

When you have selected a site, carry the tower conversion kit to the site, then place it slowly and gently.

Important Do not hold the tower conversion kit by its front door to lift it. The front door may be disengaged and damage the device.

After placing the tower conversion kit, lock its two rear wheels out of four.

2.3.2 Installing the Rack-mount Model to the Tower Conversion Kit

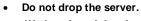
Follow the procedure below to install the devices to the tower conversion kit.

▲ CAUTION

Be sure to observe the following precautions to use the server safely. Failure to observe the precautions may cause burns, injury, and property damage. For details, see Safety precautions in Precautions for Use.

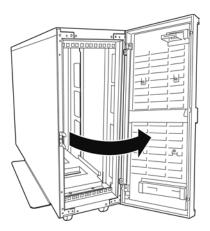






- 4U chassis weighs about 10 kgs. At least two persons are required to install
- CPU/IO module weighs about 18 kgs. At least two persons are required to install it.
- Do not leave the CPU/IO module of the server being pulled out.
- Do not install the CPU/IO module with its cover removed.
- Do not get your fingers caught.
- 1. Open the front door of the tower conversion kit.

Note If the door is locked, use the provided security key to unlock.

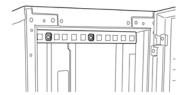


2. Confirm the location of 4 core nuts on the front of the chassis.

See the figure below for locations of the core nuts (2 on the front top and 2 on the front bottom.)

Note

4 core nuts have been installed on the front of the chassis at shipment.

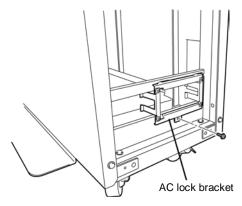


Tower conversion kit (on the front top)

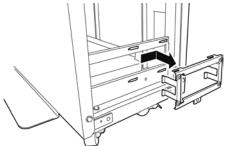


Tower conversion kit (on the front bottom)

3. Remove one screw from the AC lock bracket on the rear of the tower conversion kit.



4. Remove the AC lock bracket.



- 5. Remove two CPU/IO modules from the chassis.
- 6. Remove the DVD drive unit from the chassis.
- 7. Remove the rack mount bracket (handle) from the front of chassis.

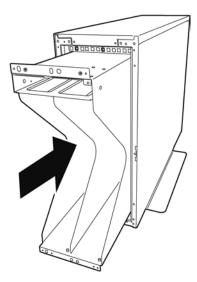
You cannot close the door with the handle being mounted.

Keep the removed handle and screws carefully. They are needed when installing the server in rack.

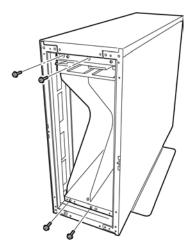
8. Insert the chassis from the front side of the tower conversion kit.

Note

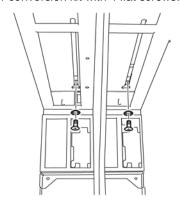
Push the chassis to the end of tower conversion kit.



9. Fix each 2 places, top and bottom on the front side (total: 4) with 4 pan-head screws attached to the device.



10. Fix the chassis to the tower conversion kit with 4 flat screws.

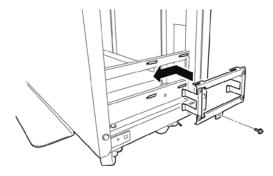


Tower conversion kit (on the rear top)

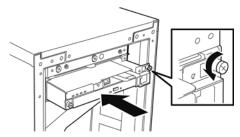


Tower conversion kit (on the rear bottom)

11. Mount AC lock bracket and secure it with a screw.



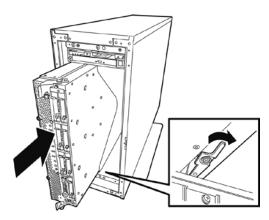
12. Insert the DVD drive unit to the chassis and secure it with screw.



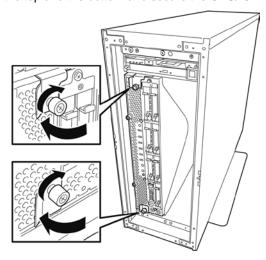
13. Slowly and carefully insert the CPU/IO module 0 into the chassis.

Tips

If the module is locked on the way, press down the lever to unlock. Keep pressing down the lock lever to keep it unlocked and push the module to the end..



14. Close the levers on the top and the bottom and secure the CPU/IO module with screws.



15. Install the CPU/IO module 1 to the chassis with the same procedures.

2.4 Connection

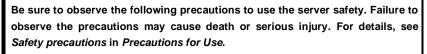
Connect peripheral devices to the server.

Connectors that allow a variety of peripheral devices to be connected are provided at the front and rear of the server. Images on the following pages show the peripheral devices that can be connected in their standard state and their respective connector positions.

WARNING











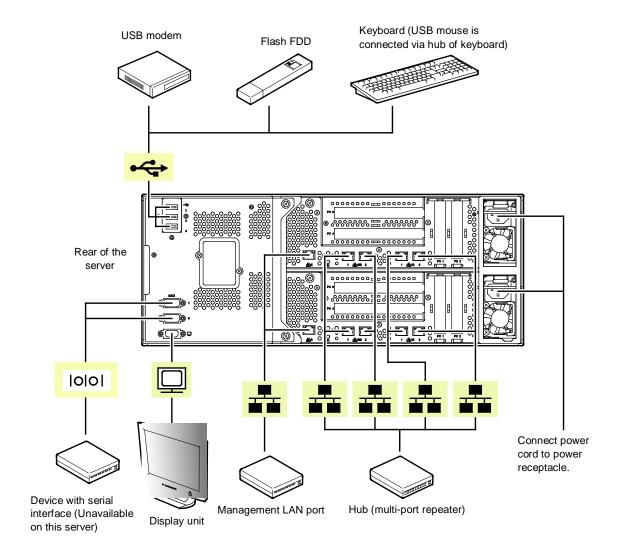
- Do not hold the power plug with wet hands
- Do not connect the ground wire to a gas pipe

A CAUTION

Be sure to observe the following precautions to use the server safely. Failure to observe the precautions may cause burns, injury, and property damage. For details, see Safety precautions in Precautions for Use.



- Use only the specified outlet to insert.
- Do not connect the power cord to an outlet that has an illegal number of connections.
- Insert the power plug into the outlet as far as it goes.
- Use only the specified power cord.
- Do not connect or disconnect the interface cable while the power cord is plugged in the outlet.
- Use only the specified interface cable

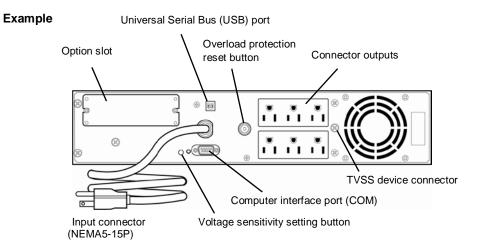


Note the following precautions to connect cables.

- If connecting any peripheral device and its interface cable made by other companies (a third party), contact your sales representative to check if they can be used with the server beforehand.
- USB devices supported by the server are a Flash FDD, keyboard (including a mouse), and SSU (server switch unit) designated by NEC. Connecting USB devices other than the above will cause malfunctions and failures.
- Consult your service representative for the available modem.
- Power off the server before connecting peripheral devices, with the exception of peripherals with USB interface. Connecting a powered peripheral device to the powered server will cause malfunctions and failures.
- In the case of standard configuration, you need to complete setup of the operating system before installing external file backup device.
- The serial port connectors are reserved for maintenance.
- When the device is not Plug and Play device, turn off the server and devices to be connected before connecting.
- Fix the power cord or interface cable with cable ties.
- Make sure that no pressure is applied on the plug of power cord.

2.4.1 Connecting to a uninterruptible power supply (UPS)

To connect the power cord of the server to the uninterruptible power supply (UPS), use the connector output on the rear of the UPS. For details, refer to the manual supplied with the UPS.



When the power cord is connected to a UPS, the BIOS settings may need to be changed in order to link the server with the power supply from the UPS.

To change the settings, select **Server** and then **AC-LINK** in the BIOS setup utility, and change the displayed parameters. Select **Power On** to perform automatic operations by using the UPS. For details, refer to *Chapter 3* (1. System BIOS) in "Maintenance Guide".

NEC Express5800 Series Express5800/R320c-E4, R320c-M4, R320d-E4, R320d-M4

3

Setup

This chapter describes how to set up the server.

1. Power ON

Power on the server according to instructions in this section.

2. System BIOS Setup

You can customize the BIOS settings by following the instructions in this section.

3. EXPRESSSCOPE Engine 3

EXPRESSSCOPE Engine 3 provides useful features through the Baseboard Management Controller (BMC).

4. EXPRESSBUILDER

EXPRESSBUILDER helps you to install an operating system and maintain the server.

5. Installing Software Components

You can install an operating system and bundled software.

6. Power OFF

Power off the server according to instructions in this section.

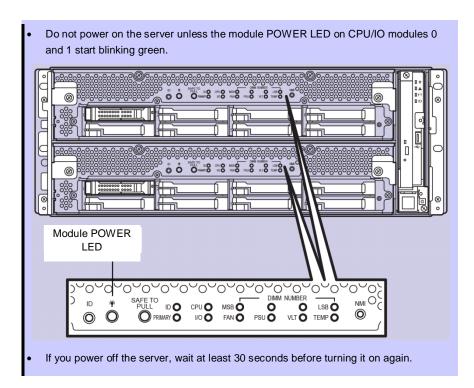
Chapter 3 Setup 1. Power ON

1. Power ON

To power on the server, press the POWER switch on front panel.

Follow the steps below to turn on the power.

Tips

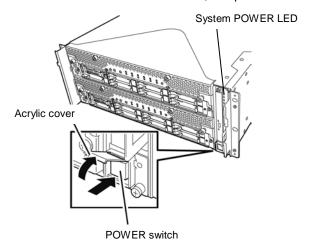


1. Power on the display unit and other peripheral devices connected to the server.

Note

If the power code is connected to a power controller like a UPS, ensure that it is powered on.

- 2. Remove the front bezel.
- 3. Lift up the acrylic cover in front of the POWER switch, and press the POWER switch of the front panel.



Chapter 3 Setup 1. Power ON

The System POWER LED goes on green. After a while, the "NEC" logo will appear on the screen.

Important

- Do not connect or disconnect USB device while POST is running.
- Do not power off the server while POST is running.

While the "NEC" logo is displayed on the screen, the server executes a power-on self test (POST) to check hardware. For details, see *Chapter 3 (1.1 POST Check)*.

Chapter 3 Setup 1. Power ON

1.1 **POST Check**

Power-On Self Test (POST) is a self-test feature stored on the motherboard of the server. When you power on the server, POST will start automatically to check the motherboard, DIMM, and processor (CPU) and others. It also displays startup messages for various utilities.

You do not always need to check POST details. You will need to check messages when:

- You install a new server.
- A failure is suspected.
- The display unit shows an error message.

1.1.1 Flow of POST

This section walks you through how POST is performed.

1. When you power on the system, one CPU/IO module is selected as primary, and it will start up.

POST will be performed on this selected CPU/IO module.

According to the factory default settings, the logo appears on the display while POST is running.

Note

Keyboard becomes operable after the logo appears.

2. If Enabled is specified for Password On Boot in Security menu of SETUP, you will be prompted to enter password after the logo is displayed. If you enter the incorrect password three times consecutively, POST aborts. (You can no longer proceed.)

In this case, power off the server, and power it on.

Important Do not set a password before installing an OS.

3. If <Esc> key is pressed, the logo disappears and the details of POST are displayed.

Tips

If Quiet Boot is Disabled on Boot menu in BIOS SETUP, the details of POST is displayed without displaying the logo.

- 4. POST displays several types of message. These messages let you know that the installed CPU or memory capacity.
- 5. After a while, the following message is displayed on the screen.

Press <F2> SETUP, <F4> ROM Utility, <F12> Network

By pressing the designated function key following messages, you can call the functions below upon completion of POST.

- <F2> key: Run BIOS Setup Utility (SETUP). For information on the SETUP, see Chapter 3 (1. System BIOS) in "Maintenance Guide".
- Run Offline Tools. For information on Offline Tools, see Chapter 1 (11. Offline Tools) or <F4> key: Chapter 1 (12. Offline Tools) in "Maintenance Guide".
- <F12> key: Boot from network.

Chapter 3 Setup 1. Power ON

6. When a built-in SAS controller is detected, a message will appear prompting for startup of SAS BIOS setup utility. (If you wait for a few seconds, POST will go on automatically.)

Example:

```
LSI Corporation MPT SAS2 BIOS
MPT2BIOS-7.23.01.00 (2011.11.17)
Copyright 2000-2011 LSI Corporation.
Press Ctrl-C to start LSI Corp Configuration Utility...
```

Tips

- You need to start SAS BIOS Setup Utility only when you want change configuration of built-in SAS controller. To launch utility, press Ctrl + C while the message appears on screen.
- When utility is completed, the server will reboot itself automatically and perform POST.
- For details on the utility, see Chapter 3 (3. SAS Configuration Utility) in Maintenance Guide.
- 7. The screen shows the ID numbers of the connected disk drive.
- 8. The OS starts when POST is completed.

1.1.2 POST Error Messages

When POST detects an error, it displays an error message on the screen. For descriptions of error messages, causes, and countermeasures, see *Chapter 1 (6.2. POST Error Message)* in *Maintenance Guide*.

Note

Take notes on the indication displayed on display unit before consulting with your sales representative. Alarm messages are useful information for maintenance.

Chapter 3 Setup 1. Power ON

1.1.3 Behavior at Occurrence of Error

The CPU/IO module to be started first is determined depending on the primary/secondary status of modules when the server was shutdown the last time.

At the first startup after AC OFF, the CPU/IO module (0 or 1) powered on first is managed as primary, and the module powered on later is managed as secondary.

If POST or OS startup does not complete normally, the server will reboot itself automatically.

At the time of reboot, the CPU/IO module that was secondary before reboot is determined as primary module, and POST or OS runs on that module (switching of boot pair).

If POST does not complete normally on both CPU/IO modules, the server will stop with the state of DC OFF or POST halts with an error message displayed.

The following devices are connected to the primary CPU/IO module. When one CPU/IO module is disconnected because of a failure, the remaining module is selected automatically to continue operating.

- VGA (display)
- USB device (keyboard, mouse, server switch unit, Flash FDD, optical disk drive)

Important

- If the Flash FDD is connected, the drive letter may change from A to B by switching CPU/IO modules. Changing of the drive letter does not affect the operation of the server. If the drive letter is changed, access the Flash FDD with the changed drive letter.
- The drive letter of the optical disk drive is re-assigned automatically. The unused letter is assigned to the drive in the order of D to Z. If you want to set the fixed drive letter to the optical disk drive, specify the letter which is not assigned in the order of D to Z after setting the hard disk drive letter.

Chapter 3 Setup 2. SYSTEM BIOS – SETUP–

2. SYSTEM BIOS -SETUP-

This section describes how to configure Basic Input Output System (BIOS).

Before you install the server and add or remove optional devices, make sure you have read and understood this section to configure properly.

2.1 Overview

The SETUP utility is provided to make basic hardware configuration for the server. This utility is pre-installed in the flash memory of the server and ready to run.

SETUP was configured for optimal performance before the server was shipped. Therefore, in most of cases, you do not need to use the SETUP utility. <u>Use only when the case applies to any of cases described in Chapter 3 (2.4 Cases that Require Configuration).</u>

2.2 Starting and Exiting SETUP Utility

2.2.1 Starting SETUP

Run POST following Chapter 3 (1.1.1 Flow of POST).

After a while, the following message will be displayed on the lower left of the screen. (The on-screen message depends on your system environment.)

```
Press <F2> SETUP, <F4> ROM Utility, <F12> Network
```

If you press <F2> key at this time, SETUP runs and displays **Main** menu upon completion of POST. (You can also press <F2> key to display **Main** menu while option ROM is expanded.)

Password

If password is set, you will be prompted to enter password.

Enter Password [

Up to three password entries are accepted. If you enter incorrect password consecutively three times, the system halts (you can no longer proceed).

In this case, power off the server once, then power it on.

2.2.2 Exiting SETUP

To exit SETUP after saving parameters, select Save & Exit → Save Changes and Exit.

To exit SETUP without saving parameters, select Save & Exit → Discard Changes and Exit.

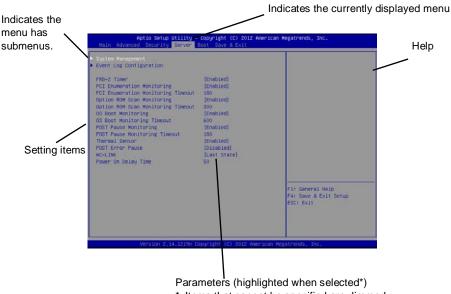
Tips

To restore the default value, select **Save & Exit** \rightarrow **Load Setup Defaults**. (The default value might be different from the factory setting.)

Chapter 3 Setup 2. SYSTEM BIOS -SETUP-

Description on On-Screen Items and Key Usage

This section shows display examples and how to control the key. Use the keyboard to work with the SETUP utility.



*: *tems that cannot be specified are dimmed.

 \square Cursor keys (<\u00e7>, <\u00c1>)

Select an item displayed on the screen. If character strings of an item are highlighted, that means the item is currently selected.

 \Box Cursor keys ($<\leftarrow>$, $<\rightarrow>$)

Select menus including Main, Advanced, Security, Server, Boot, and Save & Exit.

□ <-> key/<+> key

Change the value (parameter) of the selected item. You cannot use this key when a menu which has ▶ on the left is selected.

□ <Enter> key

Press this key to confirm the selected parameter.

□ <Esc> key

Pressing this key cancels pop-up dialog, or takes you to the previous screen on submenu screen. If you keep pressing this key on Main menu, the following window is displayed. If you select Yes, the SETUP closes without saving the changed parameters.

Quit without saving?			
[Yes]	No	•	

□ <F1> key

Press this key to display help information. If you need help using the SETUP, press this key. Press the <Esc> key to go back to the original screen.

□ <f2> key</f2>

If you press this key, the following window appears. If you select **Yes**, the previous parameter(s) are restored. If the value has been saved with **Save & Changes**, the stored values are restored.

Load Previous Values?		
[Yes]	No	

□ <F3> key

If you press this key, the following window appears. If you select **Yes**, restore the parameters of the currently selected item to the default setting. (**This might be different from the parameters configured before shipment.**)

Load Setup Defaults?			
[Yes]	No		

□ <F4> key

If you press this key, the following window appears. If you select **Yes**, the parameter you configured is saved and SETUP closes.

Save configuration and exit?		
[Yes]	No	

Chapter 3 Setup 2. SYSTEM BIOS – SETUP–

2.4 Cases that Require Configuration

Only if a case applies to any of following cases, use the SETUP utility to change a parameter which was configured as factory setting. Other than cases described below, do not change the settings. A list of SETUP parameters and factory settings are described in *Chapter 3 (1. System BIOS)* in "*Maintenance Guide*".

Category	Description	To be changed	Remark
Basic	Change date and time	$\begin{aligned} & \text{Main} \rightarrow \text{System Date} \\ & \text{Main} \rightarrow \text{System Time} \end{aligned}$	Configurable on OS
	On/Off NumLock at power ON	$Boot o Bootup \ Numlock \ State o ON$	
	Hide the logo during POST	$\textbf{Boot} \rightarrow \textbf{Quite Boot} \rightarrow \textbf{Disabled}$	Pressing the <esc> key hide the logo tentatively.</esc>
Option board	Enable Option ROM Scan of installed option board		X is PCI slot number of the option board
Boot	Change the boot order of devices	Boot → Boot Option Priorities → Change the boot priority	When you use EXPRESSBUILDER, set the highest priority to CD/DVD.
	Use remote wake-up feature (via LAN)	$\begin{tabular}{ll} Advanced \rightarrow Advanced Chipset \\ Configuration \rightarrow Wake On LAN/PME \rightarrow \\ Enabled \end{tabular}$	
Security	Set a password	Security → Administrator Password → Set a password Security → User Password → Set a password	If password is set, a message to require password is displayed at next time SETUP is launched.
	Restrict bootup by entering password		Can be selected when password is set.
UPS Power link	When the server is supplied with power from UPS, always turn on the power.	$\textbf{Server} \rightarrow \textbf{AC-LINK} \rightarrow \textbf{Power On}$	
	If the server is turned off by using POWER switch, leave it OFF even when UPS supplies power.	$\textbf{Server} \rightarrow \textbf{AC-LINK} \rightarrow \textbf{Last State}$	
	Keep the power OFF even when UPS supplies power.	$Server \to AC\text{-LINK} \to Stay \ off$	

3. EXPRESSSCOPE ENGINE 3

3.1 Overview

EXPRESSSCOPE Engine 3 provides a variety of features using Baseboard Management Controller (BMC).

See "EXPRESSSCOPE Engine 3 User's Guide" for more information.

EXPRESSSCOPE Engine 3 monitors the power unit, fans, temperature, and voltage of the server. If you have the management LAN port connected to the network, you can remotely perform the following over a web browser or SSH client:

- Manage the server
- · Remotely control the keyboard, video, and mouse (KVM)
- Remotely access a CD/DVD/floppy disk/ISO image/USB memory.

To actualize these functions, virtual USB mass storage (Remote FD, Remote CD/DVD, Remote USB Memory, or Virtual Flash) is always connected as USB mass storage.

Tips

Use Offline Tools of the server to reset BMC.

See Chapter 3 (2. BMC Configuration) in Maintenance Guide for more information.

3.2 EXPRESSSCOPE ENGINE 3 Network configuration

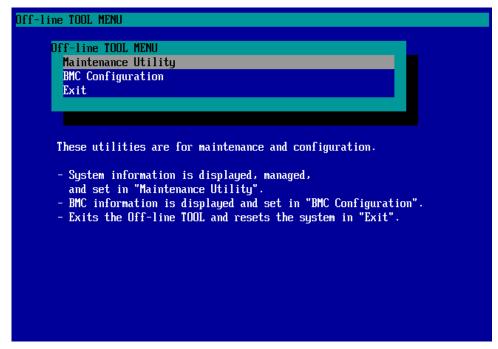
Below is an example of the configuration procedure which enables EXPRESSSCOPE Engine 3 to be used via a web browser.

1. Run POST according to *Chapter 3 (1.1.1 Flow of POST)*. After a while, the following message appears on the lower left of the screen.

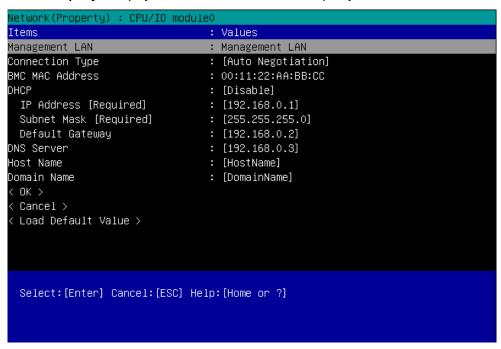
```
Press <F2> SETUP, <F4> ROM Utility, <F12> Network
```

- 2. Press the <F4> key to launch Off-line TOOL while the message is displayed..

 You can also press the <F4> key while the message is being displayed to open the Off-line TOOL MENU screen.
- 3. Select your keyboard type on keyboard selection screen.
- 4. When the Off-line TOOL MENU appears, select **BMC Configuration**, **BMC Configuration**, **Network**: **CPU/IO module 0/1**, and then **Property**.



5. When Property is displayed, enable or disable DHCP or specify IP Address/Subnet Mask.



Connect the LAN cable to the management LAN connector in order to connect to the network. It will be available for use if you access EXPRESSSCOPE Engine 3 via Web browser from management PC according to the setting made in Step 5. Chapter 3 Setup 4. EXPRESSBUILDER

4. EXPRESSBUILDER

EXPRESSBUILDER helps you to install Windows or maintain the server.

4.1 Features of EXPRESSBUILDER

EXPRESSBUILDER provides the following features.

Feature	Description
Setup (Windows reinstallation)	Installs Windows on your server. Easily completes the process to installation of applications. To use this feature, choose OS installation in Boot Selection Menu.
Bundled software	Stores bundled software, such as NEC ESMPRO Agent.
Maintenance	Diagnoses the server. To use this feature, choose Tool menu in Boot Selection Menu.
Instruction manuals	Stores various manuals, such as "User's Guide", "Installation Guide" and "Maintenance Guide".

4.2 Usage of EXPRESSBUILDER

Use EXPRESSBUILDER to install operating system or diagnose the server.

Start EXPRESSBUILDER in either of the following procedure.

- Insert the DVD into the server, and then restart it.
- Insert the DVD into a computer running Windows. Autorun menu appears automatically. The autorun menu is disabled at the factory setting. Run the following file to launch the menu. \autorun\dispatcher_x64.exe.

See Chapter 3 (5. Details of EXPRESSBUILDER) in Maintenance Guide for more information.

5. Installing Software Components

Continue to install software components such as OS.

See the instructions below.

- Installation Guide (Windows)
- Installation Guide (Linux)
- Installation Guide (VMware)

Chapter 3 Setup 6. Power OFF

6. Power OFF

Follow the steps below to turn off the power. If the server is connected to a UPS, refer to manuals provided with the UPS or the application that controls the UPS.

- 1. Shut down the OS.
- The server automatically turns off after the OS shuts down.The Module POWER LED on each CPU/IO module will be blinking while AC power is supplied.
- 3. Power off all peripheral devices.

Tips

Hibernate feature of Windows Server cannot be used. Do not set Hibernate at Windows shutdown.

NEC Express5800 Series Express5800/R320c-E4, R320c-M4, R320d-E4, R320d-M4



Appendix

1. Specifications

Describes specifications of the server.

Chapter 4 Appendix 1. Specifications

1. Specifications

Model			N8800-173F	N8800-174F	
CPU Type			Intel® Xeon® Processor		
			E5-2603	E5-2670	
	Clock speed		1.80GHz	2.60GHz	
	Standard / Maximum		1/2 (per one module)		
	Tertiary cache Number of cores (C) / Number of threads (T) (1CPU)		10M	20M	
			4C/4T	8C/16T	
Chipset			Intel ® C602 Chipset		
Memory	Capacity Standard / M	laximum	Not pre-installed / 256GB (16x 16GB) (per one module)		
	Memory mod	lule	DDR3L-1600 Registered DIMM (4/8/16GB)		
	Maximum clo	ock speed	1066MHz	1333MHz	
	Error check,	correction	ECC, x4 SDDC		
Auxiliary	Hard disk	Standard	_		
storage	drive	Maximum	2.5-inch HDD: SAS 19.2TB (16x 1.2TB)		
device			The user area is reduced to a half of the physic	al capacity due to duplication.	
		Hot swap	Supported		
	Interface		SAS 6Gb/s		
	Optical disk	drive	Built-in		
	FDD		Option: Flash FDD (1.44MB) Purchase separately as needed. See Chapter 3 (4. Flash FDD) in Maintenance Guide for more information.		
Expansion slots	Supported slot		2x PCI EXPRESS 2.0 (x4 lane, x8 socket) (Low profile)	2x PCI EXPRESS 2.0 (x8 lane, x8 socket) (Full height) 2x PCI EXPRESS 2.0 (x4 lane, x8 socket) (Low profile)	
Graphics	Chip / Video	RAM	Management controller chip / 32 MB		
	Graphic disp resolution	lay/	16,770,000 colors: 640 × 480, 800 × 600, 1,024 × 768 65536 colors: 1,280 × 1,024		
Interface			4xUSB 2.0 (1x Front, 3x Rear) 1x Analog RGB (Mini D-sub 15 pin, 1x Rear) 2x1000BASE-T LAN connector (1000/100/10BASE-T, RJ45, 2x Rear) 1x Management LAN connector (100/10BASE-T, RJ45, 1x Rear)	4xUSB 2.0 (1x Front, 3x Rear) 1x Analog RGB (Mini D-sub15 pin, 1x Rear) 2x1000BASE-T LAN connector (1000/100/10BASE-T, RJ45, 2x Rear) 2x10GBASE-T LAN connector (10G/1000/100BASE-T, RJ45, 2x Rear) 1x Management LAN connector (100/10BASE-T, RJ45, 1x Rear)	
Power suppl	у		800W 80 Plus® Platinum compliant (bipolar grounded outlet) 100-127 / 200-240 VAC ±10%, 50/60Hz ±3Hz		
External dim (width × dep			483mm (width) x 736mm (depth)x 178mm (height) (Front bezel included)		
Weight (Standard/ Max.)			45 kg / 51 kg		
Power consumption (100V at maximum configuration)		ation)	1300 VA/1290 W		
Environmental requirements Temperature/Humidity		3	Operating: 10 to 35°C / 20 to 80%, Storage: –10 to 55°C / 20 to 80% (No condensation either when operating or when stored)		
Main accessories			EXPRESSBUILDER, User's Guide		
Installed OS			-		
Supported OS			Microsoft Windows Server 2008 R2 Enterprise SP1 Microsoft Windows Server 2012 Standard Microsoft Windows Server 2012 Datacenter VMware vSphere5.1 Update1 Red Hat Enterprise Linux 6 (x86_64)		

Model			N8800-184F	N8800-185F	
CPU Type			Intel® Xeon® Processor		
	Clock speed Standard / Maximum		E5-2620v2	E5-2670v2	
			2.10GHz	2.50GHz	
			1/2 (per one module)		
Tertiary cache		ne	15M	25M	
	Number of cores (C) / Number of threads (T) (1CPU)		25		
			6C/12T	10C/20T	
Chipset	1 (/		Intel ® C602 Chipset		
Memory	Capacity Standard / N	Maximum	Not pre-installed / 256GB (16x 16GB) (per one module)		
	Memory mod		DDR3L-1600 Registered DIMM (4/8/16GB)		
	Maximum cl	ock speed	1600MHz	,	
	Error check,	correction	ECC, x4 SDDC		
Auxiliary	Hard disk	Standard	_		
storage	drive	Maximum	2.5-inch HDD: SAS 19.2TB (16x 1.2TB)		
device			The user area is reduced to a half of the physic	cal capacity due to duplication.	
		Hot swap	Supported		
	Interface	•	SAS 6Gb/s		
	Optical disk	drive	Built-in		
	FDD		Option: Flash FDD (1.44MB)		
			Purchase separately as needed. See Chapter 3 (4. Flash FDD) in Maintenance Guide for more information.		
Expansion	Supported s	lot	2x PCI EXPRESS 2.0 (x4 lane, x8 socket) 2x PCI EXPRESS 2.0 (x8 lane, x8 socket) (Full		
slots			(Low profile) height)		
				2x PCI EXPRESS 2.0 (x4 lane, x8 socket) (Low profile)	
Graphics	Chip / Video	RAM	Management controller chip / 32 MB		
	Graphic disp		16,770,000 colors: 640 × 480, 800 × 600, 1,024 × 768		
	resolution	- 7	65536 colors:1,280 × 1,024		
Interface			4xUSB 2.0 (1x Front, 3x Rear) 1x Analog RGB (Mini D-sub 15 pin, 1x Rear) 2x1000BASE-T LAN connector (1000/100/10BASE-T, RJ45, 2x Rear) 1x Management LAN connector (100/10BASE-T, RJ45, 1x Rear)	4xUSB 2.0 (1x Front, 3x Rear) 1x Analog RGB (Mini D-sub15 pin, 1x Rear) 2x1000BASE-T LAN connector (1000/100/10BASE-T, RJ45, 2x Rear) 2x10GBASE-T LAN connector (10G/1000/100BASE-T, RJ45, 2x Rear) 1x Management LAN connector (100/10BASE-T, RJ45, 1x Rear)	
Power suppl			800W 80 Plus® Platinum compliant (bipolar grounded outlet) 100-127 / 200-240 VAC ±10%, 50/60Hz ±3Hz		
External dim (width × dep			483mm (width) × 736mm (depth)× 178mm (height) (Front bezel included)		
Weight (Standard/ Max.)		·	45 kg / 51 kg		
Power consumption (100V at maximum configuration)			1300 VA/1290 W		
Environmental requirements Temperature/Humidity		S	Operating: 10 to 35°C / 20 to 80%, Storage: –10 to 55°C / 20 to 80% (No condensation either when operating or when stored)		
Main accessories			EXPRESSBUILDER, User's Guide		
Installed OS			-		
Supported OS			Microsoft Windows Server 2008 R2 Enterprise SP1 Microsoft Windows Server 2012 Standard Microsoft Windows Server 2012 Datacenter VMware vSphere5.5 Update1		