

NEC EXPRESS5800/E110d-1 Configuration Guide



Introduction

This document contains product and configuration information that will enable you to configure your system. The guide will ensure fast and proper configuration of your NEC EXPRESS5800 server.

Contents

TECHNICAL SPECIFICATION	3
Key Features.....	3
Specification.....	3
EXTERNAL VIEWS	5
Front and Rear Views	5
Dimensions (mm).....	6
CONFIGURATION DIAGRAM	7
SERVER CONFIGURATION	8
1 Base Models.....	8
2 Processor	8
3 Memory	8
4 Internal Hard Disk Drives	10
4.1 RAID Configuration.....	10
4.2 Internal Drive Configuration.....	10
5 Internal Flash Memory.....	14
6 PCI Card.....	14
6.1 LAN Controller	14
6.2 External RAID Controller	14
6.3 Fibre Channel / SAS Controller	15
6.4 Serial Port Adapter	15
7 Add-on Components	15
7.1 Server Management License.....	15
7.2 17-inch LCD Console Drawer.....	16
7.3 KVM Switch	16
7.4 Flash FDD.....	16
7.5 Optical Drive	16
REFERENCES.....	17
Note for Ordering	17
Server Management	17
OS Support Matrix for PCI Cards	18
Supporting PCI Cards and Installable Slots.....	19
Copyright Notice and Liability Disclaimer.....	20
REVISION HISTORY	21

Technical Specification

Key Features

- High performance with the latest Intel® Xeon® processor E3-1200 series
- Up to 32 GB of high speed DDR3-1333 memory
- High energy efficiency with intelligent fan control, power capping feature and 80 PLUS® Gold power supply
- Full manageability by integrated EXPRESSSCOPE Engine 3

Specification

Model	E110d-1	
Parts Number	N8100-1743F	
Processor	Type	Intel® Xeon® processor E3-1260L
	Clock Speed	2.40 GHz
	Number of Processor	1
	Cache	8 MB
	Cores and Threads	4C / 8T
Chipset	Intel® C204 Chipset	
Memory	Type	DDR3-1333 ECC Unbuffered DIMM
	Standard Capacity	0 GB
	Maximum Capacity	32 GB (4 x 8 GB)
Internal Storage	Standard Capacity	0 GB
	Maximum Capacity	SATA : 12 TB (4 x 3 TB)
	Disk Controller	SATA : 3 Gb/s (Integrated)
	RAID	SATA : ¹ ² RAID 0/1/10 (Standard), RAID 5/6 (Optional)
	Hot Plug	Supported
	Optical Disk Drive	Optional
	Optical Drive Bays [free]	0 [0]
	Disk Drive Bays [free]	4 [4]
Expansion Slots [free]	Total: 2 slots available 1 [1] x PCIe 2.0 x8 (x16 connector) 1 [1] x PCIe 2.0 x8 (x8 connector)	
Video Controller (VRAM)	Integrated in Server Management Controller (32MB)	
Interfaces	1 x VGA (15-pin mini D-sub, 1x rear) 1 x Serial (9-pin mini D-sub, RS232-C, Serial A, 1 x rear) 8x USB2.0 (2 x front, 4 x rear, 2 x internal) 2x 1000BASE-T LAN connector (1000BASE-T / 100BASE-TX / 10BASE-T, RJ-45, 2 x rear) 1 x Management LAN connector (100BASE-TX / 10BASE-T, RJ-45, 1 x rear)	
Server Management	EXPRESSSCOPE Engine 3	
System Fan	Standard	
Power Supply	1 x 400 Watt 80 PLUS® Gold certified non-Hot plug PSU 100-240 VAC ± 10% 50 / 60 Hz ± 3 Hz	
Power Consumption	(Max. Config, Idling)	108 VA / 107 Watt
	(Max. Config, Operating)	207 VA / 206 Watt

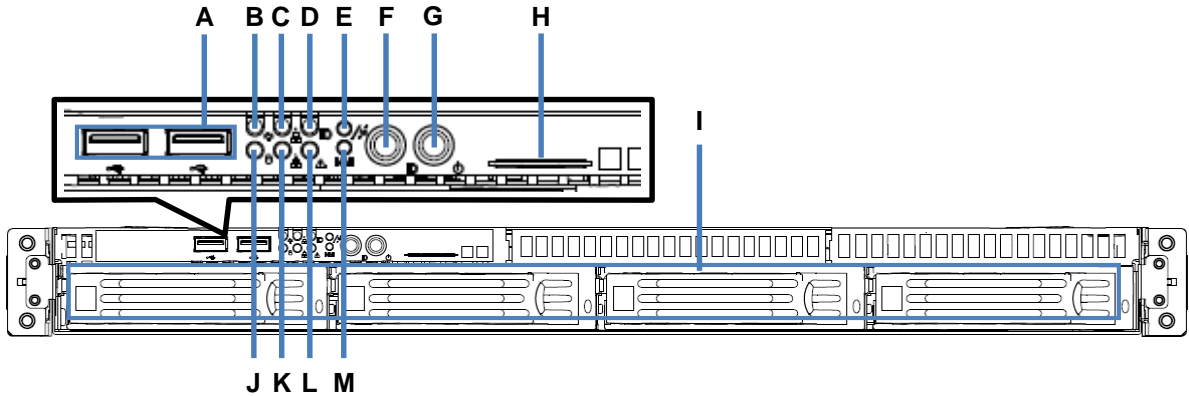
Model		E110d-1
Acoustical Noise (Sound Pressure Level) ³	Idling	39.3 dB
	Operating	48.8 dB
Dimensions (W x D x H)		444.0 x 615.2 x 43.6 mm / 17.5 x 24.2 x 1.7 in (1U)
Weight (Minimum / Maximum)		10 kg / 18 kg, 22.05 lbs. / 39.68 lbs.
Temperature, Relative Humidity (non-condensing)		Operating: 10° to 35° C / 50° to 95° F, 20 to 80% Non-Operating: -10° to 55° C / 14° to 131° F, 20 to 80%
Regulatory and Safety		FCC, CE, BSMI, CCC, UL, CB, RoHS, WEEE
Operating Systems		Microsoft® Windows Server® 2003 R2, Standard Edition SP2 or later Microsoft® Windows Server® 2003 R2, Enterprise Edition SP2 or later Microsoft® Windows Server® 2003 R2, Standard x64 Edition SP2 or later Microsoft® Windows Server® 2003 R2, Enterprise x64 Edition SP2 or later Microsoft® Windows Server® 2008 Standard Microsoft® Windows Server® 2008 Standard (x64) Microsoft® Windows Server® 2008 Enterprise Microsoft® Windows Server® 2008 Enterprise (x64) Microsoft® Windows Server® 2008 R2 Standard Microsoft® Windows Server® 2008 R2 Enterprise Red Hat Enterprise Linux 5.6 or later ⁴ Red Hat Enterprise Linux 5.6 or later (EM64T) ⁴

¹ On-board SATA RAID controller is supported only on Windows operating systems.
² On-board SATA RAID controller does not support RAID 10 configured with 2 TB and 3 TB HDDs.
³ Noise emission was measured in accordance with ISO 7779. The actual value may vary by the operating environment.
⁴ For Linux support, contact our sales representative or go to the NEC website at: <http://www.nec.com/global/prod/express/linux/index.html>

External Views

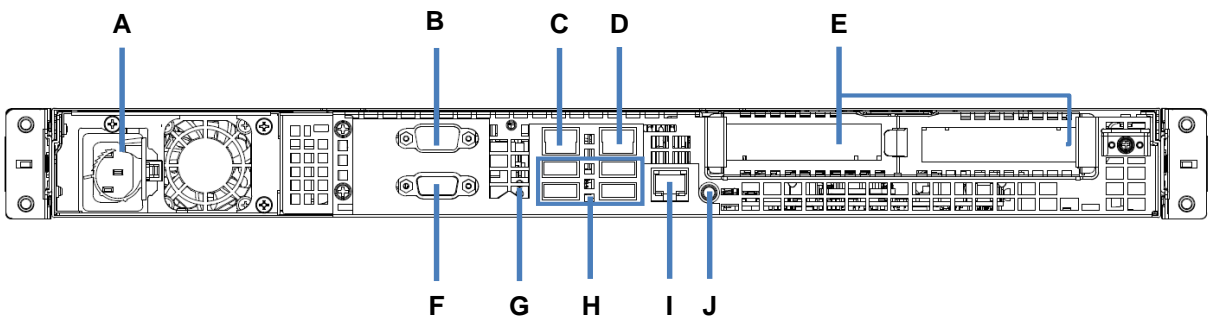
Front and Rear Views

Front View



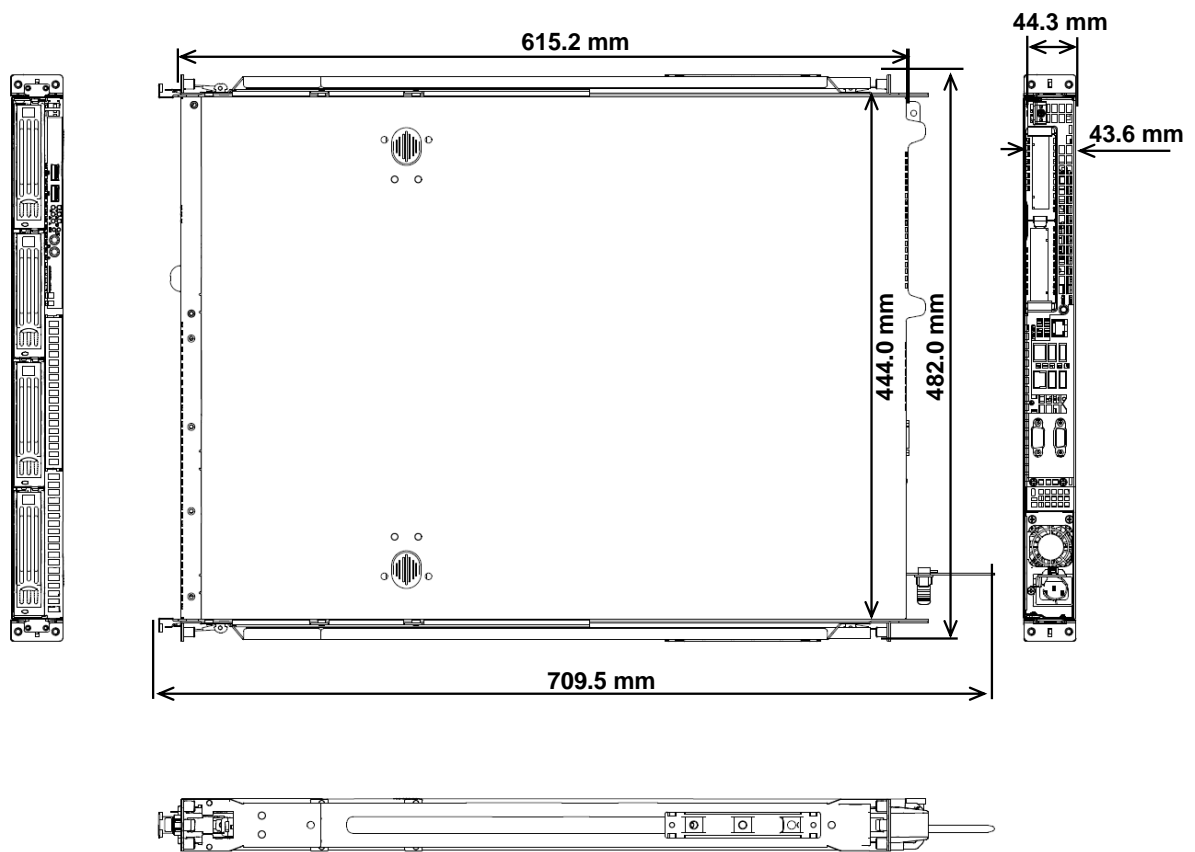
Legend			
A.	USB Connectors	H.	Pull-out Tab
B.	Power LED	I.	Drive Bays
C.	Data LAN 1 Activity LED	J.	Hard Drive Activity LED
D.	UID LED	K.	Data LAN 2 Activity LED
E.	BMC Reset Switch	L.	System Status LED
F.	UID LED Button	M.	Dump (NMI) Switch
G.	Power Button		

Rear View

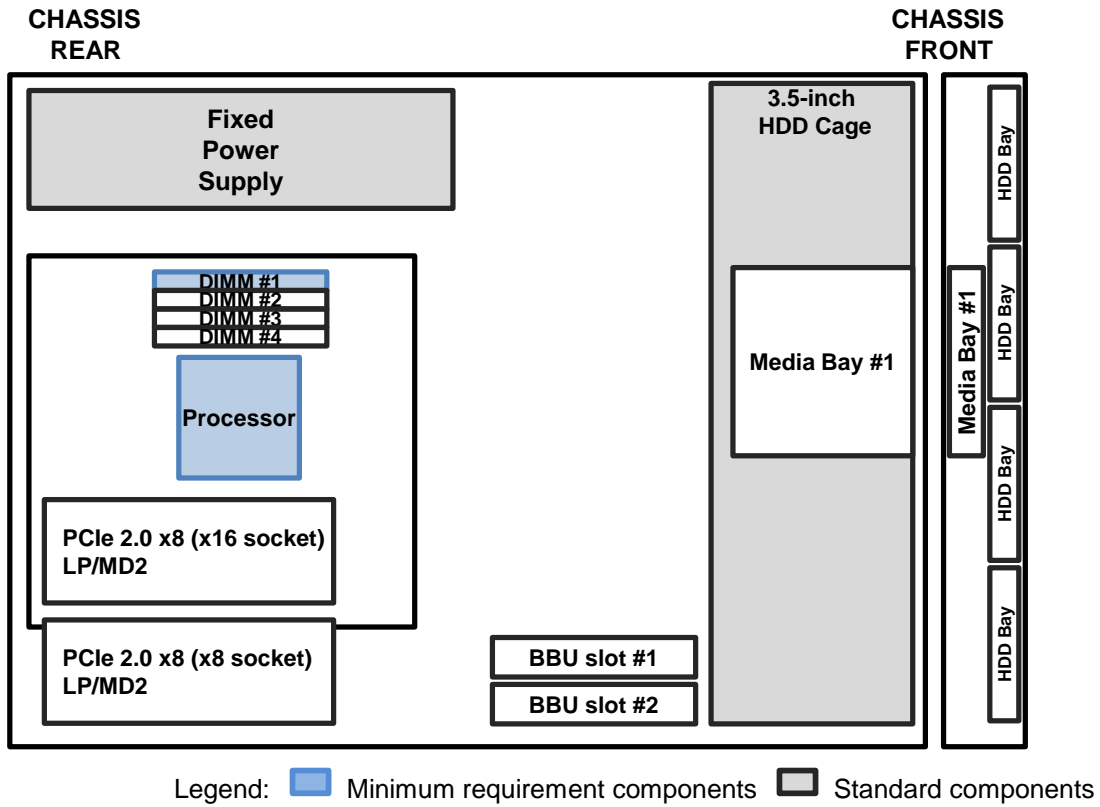


Legend			
A.	AC Inlet	F.	VGA Connector
B.	Serial Port Connector	G.	Power LED
C.	Data LAN 1 Connector	H.	USB Connectors
D.	Data LAN 2 Connector	I.	Management LAN Connector
E.	PCI Slots	J.	UID LED / Button

Dimensions (mm)



Configuration Diagram



Server Configuration

1 Base Models

Product Name / Description	Part Number
NEC EXPRESS5800/E110d-1 Server no processor, no RAM, no 3.5-inch HDD Including: 3.5-inch HDD Cage, EXPRESSBUILDER DVD	N8100-1743F

NOTE:

- The base model must be ordered with a processor kit.

2 Processor

Available sockets: 1

Product Name / Description	Part Number
Processor Kit (4C/E3-1260L) Intel® Xeon® Processor E3-1260L (2.40 GHz / 4C-4T / 8 MB)	N8101-511F

NOTE:

- One processor kit from above must be installed.
- The processor kit must be ordered with the base model.

3 Memory

Available slots: 4

Product Name / Description	Part Number
2GB Memory Kit 2GB (1x 2 GB) DDR3-1333 ECC Unbuffered DIMM	N8102-416F
4GB Memory Kit 4GB (1x 4 GB) DDR3-1333 ECC Unbuffered DIMM	N8102-417F
8GB Memory Kit 8GB (1x 8 GB) DDR3-1333 ECC Unbuffered DIMM	N8102-418F

NOTE:

- Minimum one memory kit must be installed.
- It is recommended to install two identical memory kits for dual-channel symmetric configuration to increase memory transfer speed.

Maximum Available Memory

See the table below for the maximum memory size that you can actually use on your system.

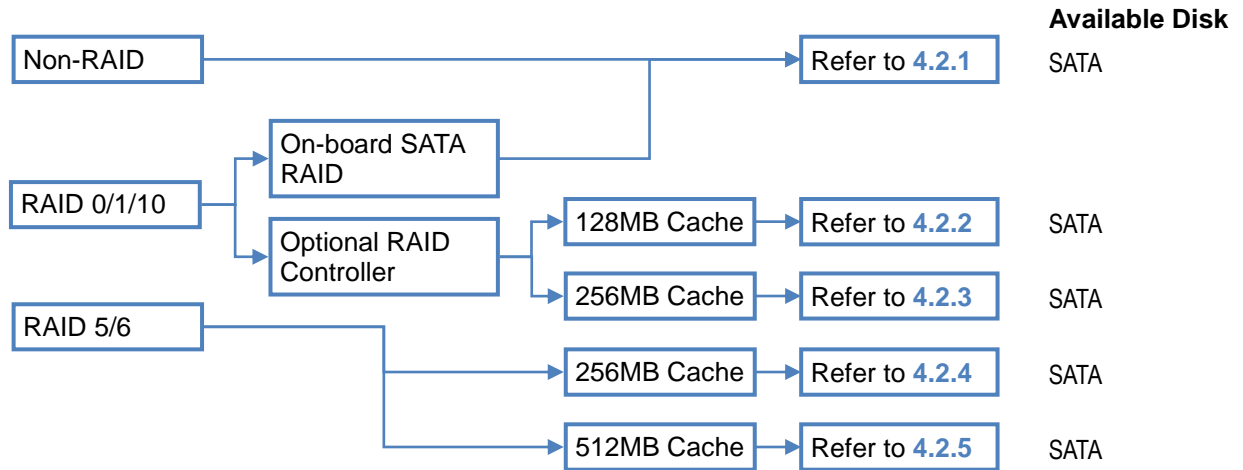
The maximum available memory is less than the maximum physical memory supported by your system because some chipsets require PCI resource space of about 750MB. PCI resource requirements vary depending on the type and the number of PCI cards you are using.

Maximum Memory Size Supported by OS		Maximum Available Memory
4 GB	Microsoft Windows Server 2003 R2, Standard Edition Microsoft Windows Server 2008 Standard	4 GB (HW-DEP enabled) App. 3.3 GB (HW-DEP disabled)
32 GB	Microsoft Windows Server 2003 R2, Standard x64 Edition Microsoft Windows Server 2008 Standard (x64) Microsoft Windows Server 2008 R2 Standard (x64)	32 GB
64 GB	Microsoft Windows Server 2003 R2, Enterprise Edition Microsoft Windows Server 2008 Enterprise	32 GB
1 TB	Microsoft Windows Server 2003 R2, Enterprise x64 Edition	32 GB
2 TB	Microsoft Windows Server 2008 Enterprise (x64) Microsoft Windows Server 2008 R2 Enterprise (x64)	32 GB
16 GB	Red Hat Enterprise Linux 5	16 GB
256 GB	Red Hat Enterprise Linux 5 (EM64T)	32 GB

4 Internal Hard Disk Drives

4.1 RAID Configuration

Refer to the section in accordance with your disk form factor and RAID configuration.



NOTE:

- On-board SATA RAID controller is supported only on Windows operating systems. An optional RAID controller is required to configure RAID array for other operating systems.
- On-board SATA RAID Controller does not support RAID 10 configured with 2 TB and 3 TB HDDs.
- Hot plug insertion/removal is not supported with the on-board SATA non-RAID controller.
- All hard drives within a RAID array should be of the same capacity.
- An optional RAID controller occupies one PCI slot.

4.2 Internal Drive Configuration

4.2.1 On-board SATA Controller

Category	Product Name / Description	Part Number
Storage Controller	On-board SATA Controller 2 x SATA ports, RAID 0/1 capable	(Standard)
Cable	Internal SATA Cable 1x SATA to 1x SATA , 4 sets	(Standard)
HDD Cage	3.5-inch HDD Cage 4 x 3.5-inch hot plug hard drive bays	(Standard)
HDD 4 slots available	160GB HDD 1 x 160 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-285
	250GB HDD 1 x 250 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-279
	500GB HDD 1 x 500 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-280
	1TB HDD 1 x 1 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-282
	2TB HDD 1 x 2 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-283
	3TB HDD 1 x 3 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-336

NOTE:

- On-board SATA RAID controller is supported only on Windows operating systems. An optional RAID controller is required to configure RAID array for other operating systems.
- On-board SATA RAID Controller does not support RAID 10 configured with 2 TB and 3 TB HDDs.

- 3 TB HDDs are not supported with the on-board SATA non-RAID controller.
- Hot plug insertion/removal is not supported with the on-board SATA non-RAID controller.
- All hard drives within a RAID array should be of the same capacity.

4.2.2 RAID 0/1 Controller with 128 MB Cache

Category	Product Name / Description	Part Number
Storage Controller Required	RAID Controller (128MB, RAID 0/1) Promise SuperTrak TX8760T-128 RAID 0/1/10, 128MB, Int. 8, PCIe 2.0 x8, SAS 6Gb/s, SATA 3Gb/s, LP / FH	N8103-128
RAID BBU Recommended	RAID Battery Backup Unit for Promise SuperTrak EX8760T and EX8768	N8103-140
Cable Required	Internal SATA Cable 1x mini-SAS to 4x SATA	K410-240(00)
HDD Cage	3.5-inch HDD Cage 4 x 3.5-inch hot plug hard drive bays	(Standard)
HDD 4 slots available	160GB HDD 1 x 160 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-285
	250GB HDD 1 x 250 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-279
	500GB HDD 1 x 500 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-280
	1TB HDD 1 x 1 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-282
	2TB HDD 1 x 2 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-283
	3TB HDD 1 x 3 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-336

NOTE:

- All hard drives within a RAID array should be of the same capacity.

4.2.3 RAID 0/1 Controller with 256 MB Cache

Category	Product Name / Description	Part Number
Storage Controller Required	RAID Controller (256MB, RAID 0/1) LSI MegaRAID SAS 9264-8i RAID 0/1/10, 256MB, Int. 8, PCIe 2.0 x8, SAS 6Gb/s, SATA 3Gb/s, LP / FH	N8103-129
RAID BBU Recommended	RAID Battery Backup Unit for LSI MegaRAID SAS 9264	N8103-123
Cable Required	Internal SATA Cable 1x mini-SAS to 4x SATA	K410-240(00)
HDD Cage	3.5-inch HDD Cage 4 x 3.5-inch hot plug hard drive bays	(Standard)
HDD 4 slots available	160GB HDD 1 x 160 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-285
	250GB HDD 1 x 250 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-279
	500GB HDD 1 x 500 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-280
	1TB HDD 1 x 1 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-282
	2TB HDD 1 x 2 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-283

NOTE:

- All hard drives within a RAID array should be of the same capacity.

4.2.4 RAID 5/6 Controller with 256 MB Cache

Category	Product Name / Description	Part Number
Storage Controller Required	RAID Controller (256MB, RAID 0/1/5/6) LSI MegaRAID SAS 9264-8i RAID 0/1/5/6/10/50, 256MB, Int. 8, PCIe 2.0 x8, SAS 6Gb/s, SATA 3Gb/s, LP / FH	N8103-130
RAID BBU Recommended	RAID Battery Backup Unit for LSI MegaRAID SAS 9264	N8103-123
Cable Required	Internal SATA Cable 1x mini-SAS to 4x SATA	K410-240(00)
HDD Cage	3.5-inch HDD Cage 4 x 3.5-inch hot plug hard drive bays	(Standard)
HDD 4 slots available	160GB HDD 1 x 160 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-285
	250GB HDD 1 x 250 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-279
	500GB HDD 1 x 500 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-280
	1TB HDD 1 x 1 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-282
	2TB HDD 1 x 2 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-283

NOTE:

- All hard drives within a RAID array should be of the same capacity.

4.2.5 RAID 5/6 Controller with 512 MB Cache

Category	Product Name / Description	Part Number
Storage Controller Required	RAID Controller (512MB, RAID0/1/5/6) Promise SuperTrak EX8760T-512 RAID 0/1/5/6/10/50, 512MB, Int. 8, PCIe 2.0 x8, SAS 6Gb/s, SATA 3Gb/s, LP / FH	N8103-134
RAID BBU Recommended	RAID Battery Backup Unit for Promise SuperTrak EX8760T and EX8768	N8103-140
Cable Required	Internal SATA Cable 1x mini-SAS to 4x SATA	K410-240(00)
HDD Cage	3.5-inch HDD Cage 4 x 3.5-inch hot plug hard drive bays	(Standard)
HDD 4 slots available	160GB HDD 1 x 160 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-285
	250GB HDD 1 x 250 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-279
	500GB HDD 1 x 500 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-280
	1TB HDD 1 x 1 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-282
	2TB HDD 1 x 2 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-283
	3TB HDD 1 x 3 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-336

NOTE:

- All hard drives within a RAID array should be of the same capacity.

5 Internal Flash Memory

Available socket: 1

Product Name / Description	Part Number
<p>Internal Flash Memory Internal flash memory to enable software and tools in the EXPRESSBUILDR DVD without DVD media</p> <p>NOTE: Before use, software and tools must be copied from the EXPRESSBUILDER DVD to the flash memory. The following operations can be performed with the flash memory:</p> <ul style="list-style-type: none"> - Installation of Windows server with express setup - Installation of Starter Pack—the package of NEC qualified drivers and system setting tools - Installation of NEC ESMPRO Agent and Universal RAID Utility - Performance of the Test and Diagnosis Tool 	N8115-05

6 PCI Card

6.1 LAN Controller

Category	Product Name / Description	Part Number
GbE	<p>1000BASE-T Adapter (2ch) Broadcom NetXtreme II 5709 Dual port Network Interface Card PCIe x4, LP / FH</p> <p>NOTE: Teaming and bonding features across the standard LAN and the LAN controller are supported on Windows Server 2003R2 / 2008 / 2008R2 and Red Hat Linux 5.x Operating system. Up to 2 teams per system and 2 ports per team is supported in the teaming and bonding feature.</p>	N8104-134
10GbE	<p>Ctrlr 10GBASE Adapter (SFP+/2ch) Broadcom NetXtreme II BCM957711 10G SFP+ Dual Port Network Interface Card PCIe 2.0 x8, LP / FH</p> <p>NOTE: N8104-129 SFP+ Module is required to connect with an optical cable. Up to 2 SFP+ Modules can be installed. 1 team per 1 system is supported in teaming feature.</p>	N8104-128
Module	<p>SFP+ Module (10G-SR) 1x SFP+ Module for N8104-128</p>	N8104-129

6.2 External RAID Controller

Category	Product Name / Description	Part Number
Controller	<p>RAID Controller (512MB, RAID0/1/5/6) Promise SuperTrak EX8768 RAID 0/1/5/6, 512MB, Ext. 8, PCIe 2.0 x8, SAS 6Gb/s, SATA3Gb/s, LP / FH</p>	N8103-135
RAID BBU	<p>RAID Battery Backup Unit for Promise SuperTrak EX8760T and EX8768</p>	N8103-140

6.3 Fibre Channel / SAS Controller

Category	Product Name / Description	Part Number
Fibre Channel	Fibre Channel Controller (1ch) Emulex LightPulse LPe1250-F8 Host Bus Adapter 8Gb/s, Optical, PCIe 2.0 x8, LP / FH	N8190-153
	Fibre Channel Controller (2ch) Emulex LightPulse LPe12002-M8 Host Bus Adapter 8Gb/s, Optical, PCIe 2.0 x8, LP / FH	N8190-154
	Fibre Channel Controller (1ch) Emulex LightPulse LPe1150-F4 Host Bus Adapter 4Gb/s, Optical, PCIe x4, LP / FH	N8190-127
	Fibre Channel Controller (2ch) Emulex LightPulse LPe11002-M4 Host Bus Adapter 4Gb/s, Optical, PCIe 2.0 x4, LP / FH	N8190-131
SAS	SAS Controller LSI SAS3442E-R Host Bus Adapter 3Gbps SAS, Int. 4, Ext. 4, SFF-8484 / SFF8470, PCIe x8, LP/FH	N8103-104A
	SAS Controller LSI ISAS9212-4i4 Host Bus Adapter 6Gbps SAS, Int. 4, Ext. 4, 7-pin SATA / SFF-8088, PCIe 2.0 x8, LP/FH	N8103-142

6.4 Serial Port Adapter

Product Name / Description	Part Number
Serial port adapter Serial port fixed to PCI bracket	N8117-01A

7 Add-on Components

7.1 Server Management License

The server integrates the EXPRESSSCOPE Engine 3 as standard. Refer to [Server Management](#) for the standard management features. For more extensive remote KVM and remote media features, choose the following kit.

Product Name / Description	Part Number
Remote KVM and Media License kit License for one server. Remote console and remote media are enabled regardless of OS status. Remote KVM: <ul style="list-style-type: none"> - Displays a graphics console on the web browser of the remote terminal (PC/server). - Controls keyboard and mouse via the remote terminals' web browser Remote media: Enables the user to use the CD / DVD / FD / Flash memory of the remote terminals (PC/server) as if accessing the local drives.	N8115-04

7.2 17-inch LCD Console Drawer

Category		Product Name / Description	Part Number
Drawer w/ KVM	Drawer	17inch LCD Console Unit (1U/8port) 17-inch LCD, US 83-keys Keyboard, Optical mouse, 8 port KVM switch, 1U height	N8143-69F
	Cable	Switch Unit Connection Cable Set (USB,1.8m) 1.8 m, 1x 15-pin mini D-sub to 1x 15-pin mini D-sub / 1x 4-pin USB A	K410-118(1A)
		Switch Unit Connection Cable Set (USB,3m) 3 m, 1x 15-pin mini D-sub to 1x 15-pin mini D-sub / 1x 4-pin USB A	K410-118(03)
		Switch Unit Connection Cable Set (USB,5m) 5 m, 1x 15-pin mini D-sub to 1x 15-pin mini D-sub / 1x 4-pin USB A	K410-118(05)
Drawer w/o KVM	Drawer	17inch LCD Console Unit 1U 17-inch LCD, US 83-keys Keyboard, Optical mouse, 1U height, 1x 4-pin USB B to 4-pin USB A cable 2m, 1x PS/2 Y-splitter cable 2m, 15-pin mini D-sub VGA cable 2m	N8143-76F

7.3 KVM Switch

Category		Product Name / Description	Part Number
KVM Switch		Server Switch Unit (8 server) 1U USB 8 port KVM switch	N8191-10F
Cable		Switch Unit Connection Cable Set (USB,1.8m) 1.8 m, 1x 15-pin mini D-sub to 1x 15-pin mini D-sub / 1x 4-pin USB A	K410-118(1A)
		Switch Unit Connection Cable Set (USB,3m) 3 m, 1x 15-pin mini D-sub to 1x 15-pin mini D-sub / 1x 4-pin USB A	K410-118(03)
		Switch Unit Connection Cable Set (USB,5m) 5 m, 1x 15-pin mini D-sub to 1x 15-pin mini D-sub / 1x 4-pin USB A	K410-118(05)

7.4 Flash FDD

Choose the Flash FDD if you need to prepare the alternative device for floppy drive.

Product Name / Description	Part Number
Flash FDD USB flash emulating USB floppy disk, Native capacity 1.44 MB	N8160-86

7.5 Optical Drive

Product Name / Description	Part Number
External DVD-ROM drive Slim DVD-ROM drive, Bus powered, 0.8 A required	N8160-85

References

Note for Ordering

Parts number provided may be needed to modify by country/region when you order the products.

For example, the operable parts number for N8100-1743F in EMEA is N8100-1743F -O, adding "-O", the country-specific identifier for EMEA, after the parts number.

Please consult our sales representative for your country identifier.

Server Management

The EXPRESSSCOPE Engine 3, integrated into the server, provides superior remote control and system management features listed in the table below.

		Standard	With Remote KVM and Media License kit
Hardware monitoring	Temperature/voltage/power/fan /degeneration (memory/hard drive)	✓	✓
	Hardware event log collection	✓	✓
Boot monitoring	Bootting, BIOS/POST stall, OS stall, shutdown	✓	✓
Alerting	HW error, Boot error and OS panic (by SNMP, E-Mail)	✓	✓
Remote KVM (via LAN)	POST/BIOS setup, DOS utility	✓	✓
	Panic screen, Boot screen	✓	✓
	Text-based screen (OS console)	✓	✓
	GUI-based screen (OS console)	-	✓
Remote control (via LAN)	Remote reset/power on-off/ dump	✓	✓
	Configure power capping setting	✓	✓
	Configure BIOS setting (items limited)	✓	✓
	OS shutdown	✓	✓
	Remote media (CD/DVD/FD)	-	✓
	Server Management Command Line Protocol (DMTF compliant)	✓	✓
	Remote control via Web browser (without dedicated app)	✓	✓
	Remote batch	✓	✓
Maintenance	Scheduling (without UPS)	✓	✓
	Save/restore BIOS/BMC setting to/from a dedicated flash memory	✓	✓
Others	Set automatic IP address via DNS/DHCP	✓	✓
Remote wakeup	Wake On LAN, Wake On Ring	✓	✓
Centralized management	Monitoring and control of multiple servers	✓	✓
Industry standard	IPMI	2.0	2.0

OS Support Matrix for PCI Cards

Part Number	Product Name	WS 2008R2	WS 2008	WS 2008 X64	WS 2003R2	WS 2003R2 X64	RHEL 5	RHEL 5 X64
N8103-128	RAID Controller	✓	✓	✓	✓	✓	✓	✓
N8103-129	RAID Controller	✓	✓	✓	✓	✓	✓	✓
N8103-130	RAID Controller	✓	✓	✓	✓	✓	✓	✓
N8103-134	RAID Controller	✓	✓	✓	✓	✓	✓	✓
N8103-135	RAID Controller	✓	✓	✓	✓	✓	✓	✓
N8103-104A	SAS Controller, 3 Gb/s	✓	✓	✓	✓	✓	✓	✓
N8103-142	SAS Controller, 6 Gb/s	✓	✓	✓	✓	✓	✓	✓
N8190-153	Fibre Channel Controller	✓	✓	✓	✓	✓	✓	✓
N8190-154	Fibre Channel Controller (2ch)	✓	✓	✓	✓	✓	✓	✓
N8190-127	Fibre Channel Controller	✓	✓	✓	✓	✓	✓	✓
N8190-131	Fibre Channel Controller (2ch)	✓	✓	✓	✓	✓	✓	✓
N8104-134	1000BASE-T Adapter (2ch)	✓	✓	✓	✓	✓	✓	✓
N8104-128	10GBASE Adapter (SFP+/2ch)	✓	✓	✓	-	-	✓	✓

Supporting PCI Cards and Installable Slots

Part Number	Product Name	Slots		Remarks
	Slot # :	#1	#2	
	PCI Slot:	x8	x8	
	Card height:	LP		
	Slot type:	x16	x8	
	Installable card length (mm) :	200		
N8103-104A	SAS Controller [PCIe x8]	✓	✓	
N8103-142	SAS Controller [PCIe 2.0 x8]	✓	✓	
N8103-128	RAID Controller (128MB, RAID 0/1) [PCIe 2.0 x8]	-	✓	
N8103-129	RAID Controller (256MB, RAID 0/1) [PCIe 2.0 x8]	-	✓	
N8103-130	RAID Controller (256MB, RAID 0/1/5/6) [PCIe 2.0 x8]	-	✓	
N8103-134	RAID Controller (512MB, RAID 0/1/5/6) [PCIe 2.0 x8]	-	✓	
N8103-135	RAID Controller (512MB, RAID 0/1/5/6) [PCIe 2.0 x8]	✓	✓	
N8190-127	Fibre Channel Controller [PCIe x4]	✓	✓	
N8190-153	Fibre Channel Controller [PCIe 2.0 x8]	✓	✓	
N8190-131	Fibre Channel Controller (2ch) [PCIe x4]	✓	✓	
N8190-154	Fibre Channel Controller (2ch) [PCIe 2.0 x8]	✓	✓	
N8104-134	1000BASE-T adapter (2ch) [PCIe x4]	✓	✓	
N8104-128	10GBASE Adapter (SFP+/2ch) [PCIe 2.0 x8]	✓	✓	
N8117-01A	Serial Port Adapter	✓	✓	

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For hard drive capacity measurements, 1 GB = 1 billion bytes. Actual formatted capacity is less.

Revision History

Revision	Date	Description
2.1	January 11, 2012	Discontinued products removed: SCSI Controller / N8103-107 Others: Correct incorrect information in internal drive configuration using 3TB 3.5-inch SATA drive
2.0	December 14, 2011	New products added: 3TB HDD / N8150-336 Discontinued products removed: 1GB Memory Kit / N8102-415F
1.3	October 18, 2011	Others: Correct incorrect information in Specification, 6.3 Fibre Channel / SAS / SCSI Controller, 7.2 17-inch LCD Console Drawer, 7.3 KVM Switch, and References.
1.2	September 26, 2011	Others: Correct incorrect drawing for the front view
1.1	August 3rd, 2011	Others: Correct incorrect description for 8GB Memory Kit
1.0	July 28th, 2011	Initial release