

NEC Express5800/GT110d-S Configuration Guide

Liquid cooling model



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.

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Technical Specification

Key Features

- Ultra compact form of 93mm in width, 13 liter in volume
- Up to 32 GB of high speed DDR3-1333 memory
- Full manageability by integrated EXPRESSSCOPE Engine 3
- Whisper quiet at 35dB in maximum configuration with operation status
- Function in maximum 40° C / 104° F ambient temperature

Specification

Model		GT110d-S	
		3.5-inch drive model	2.5-inch drive model
Part Number		N8100-1859F	N8100-1860F
Processor	Type	Intel® Core™ i3-2120 processor	
	Clock speed	3.30 GHz	
	Number of Processor	1	
	Cache	3 MB	
	Cores and Threads	2C / 4T	
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 : 6 TB (2 x 3 TB)	SAS: 2.7 TB (3 x 900 GB) SATA : 3 TB (3x 1 TB) SSD : 300 GB (3 x 100 GB)
	Disk Controller	SATA : 3Gb/s (Integrated)	SATA : 3Gb/s (Integrated) SAS: 6Gb/s (Optional)
	RAID	SATA : ¹² RAID 0/1	SATA : ¹² RAID 0/1 (Standard), RAID 5/6 (Optional) SAS : RAID 0/1/5/6 (Optional)
	Hot Plug	-	Supported
	Optical Disk Drive	Slim DVD-ROM	
	3.5-inch Media Bays [free]	1 [1]	
	Disk Drive Bays [free]	3.5-inch: 2 [2]	2.5-inch: 3[3]
Expansion Slots [free]		Total: 2 slots available 2 [2] x PCIe 2.0 x4 (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	

Model		GT110d-S	
Power Supply		1 x 250 Watt 80 PLUS® Sliver certified non-Hot plug PSU 100-240 VAC ± 10% 50 / 60 Hz ± 3 Hz	
Power Consumption	(100VAC, Max. Config, Idling)	71 VA / 66 Watt	91 VA / 87 Watt
	(100VAC, Max. Config, Operating)	134 VA / 130 Watt	152 VA / 148 Watt
Acoustical Noise (Sound Pressure Level) ³	Minimum Config.	29.1 dB	29.2 dB
	Maximum Config.	30.9 dB	35.7 dB
Dimensions (W x D x H)		93 x 386 x 363 mm / 3.8 x 15.2 x 14.3 in	
Weight (Minimum / Maximum)		9 kg / 12 kg, 19.84 lbs. / 26.46 lbs.	
Temperature, Relative Humidity (non-condensing)		Operating: 10° to 40° C / 50° to 104° 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, Standard 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 Red Hat Enterprise Linux 6.1 or later ⁴ Red Hat Enterprise Linux 6.1 or later (EM64T) ⁴ VMware ESXi™ 5.0	

¹ Embedded SATA RAID controller is supported only on Windows operating systems.

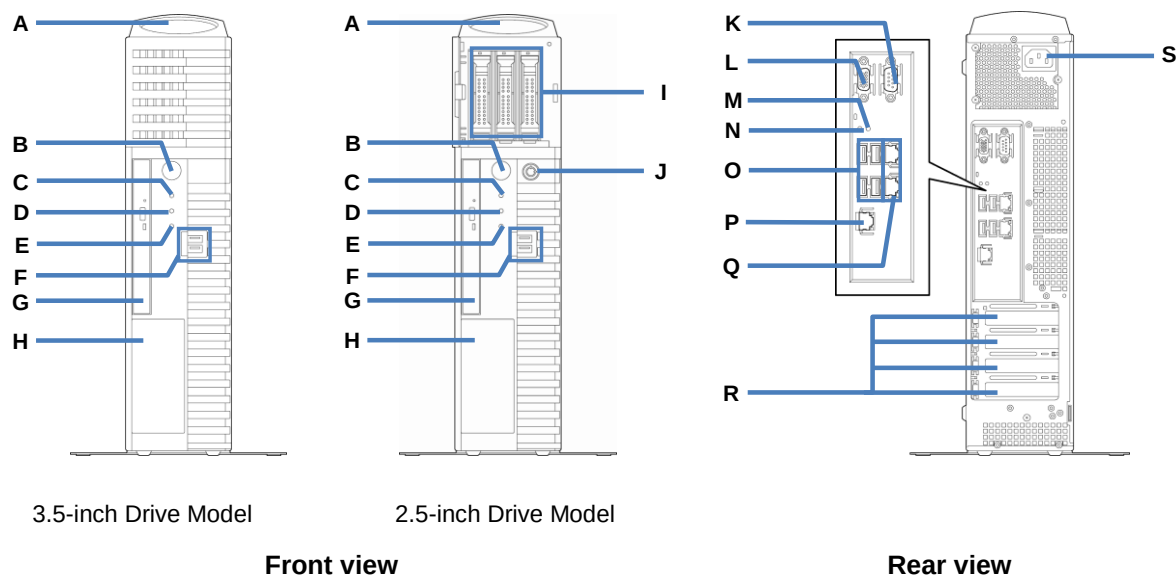
² Embedded SATA RAID Controller does not support RAID 10 configured with 2TB and 3TB HDDs.

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

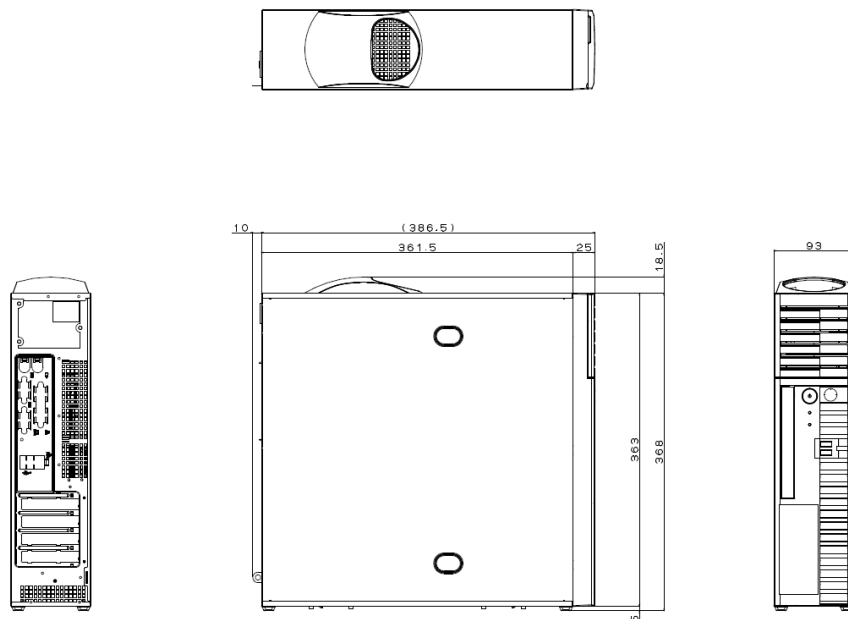


Legend

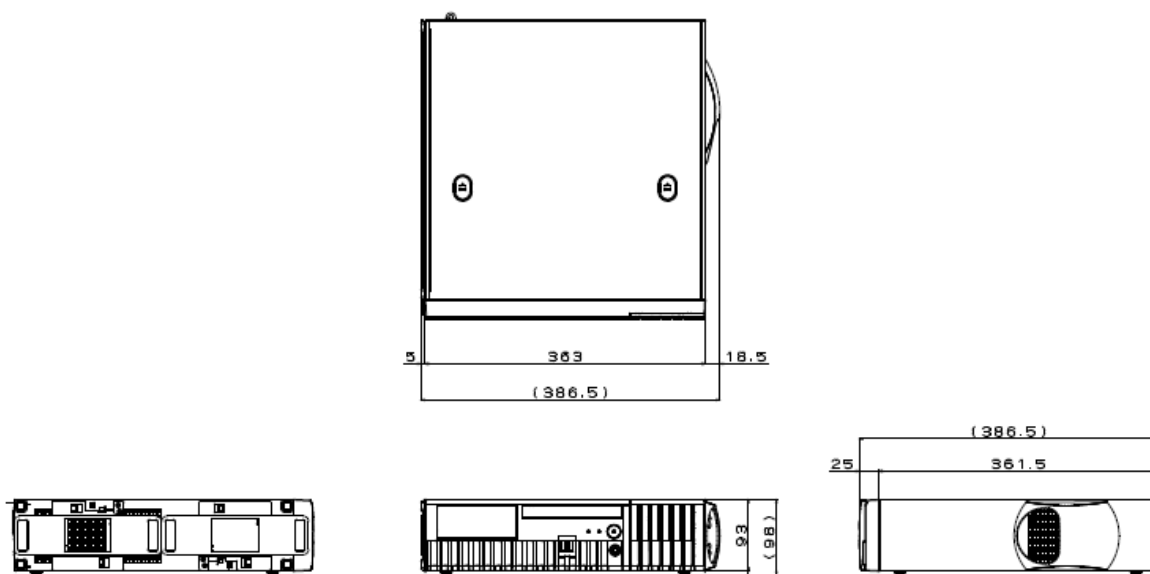
A.	Vent Holes Cover	K.	Serial Port Connector
B.	Power Button	L.	VGA Connector
C.	Power LED	M.	BMC Reset Switch
D.	Hard Drive Activity LED	N.	Dump (NMI) Switch
E.	System Status LED	O.	USB Connectors
F.	USB Connectors	P.	Management LAN Connector
G.	Optical Disk Drive	Q.	Data LAN Connectors
H.	3.5-inch Media Bay	R.	PCI Slots
I.	2.5-inch HDD Bay	S.	AC Inlet
J.	HDD Bay Cover Key		

Dimensions (mm)

Tower installation

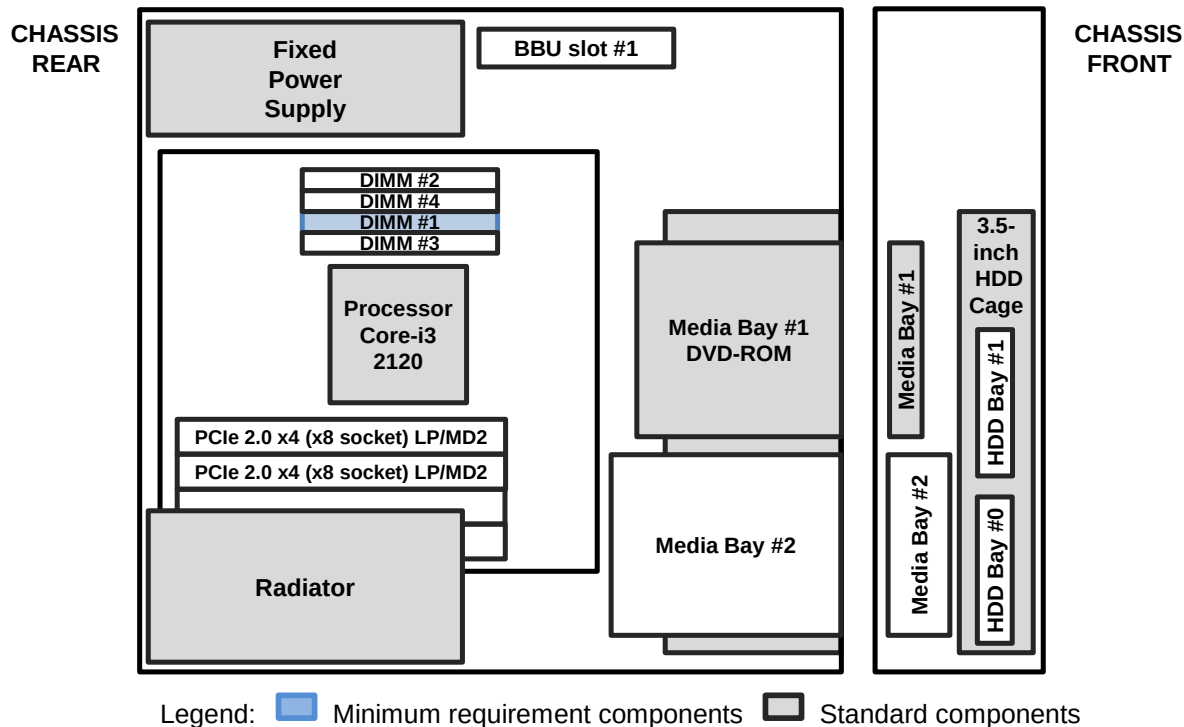


Desktop installation

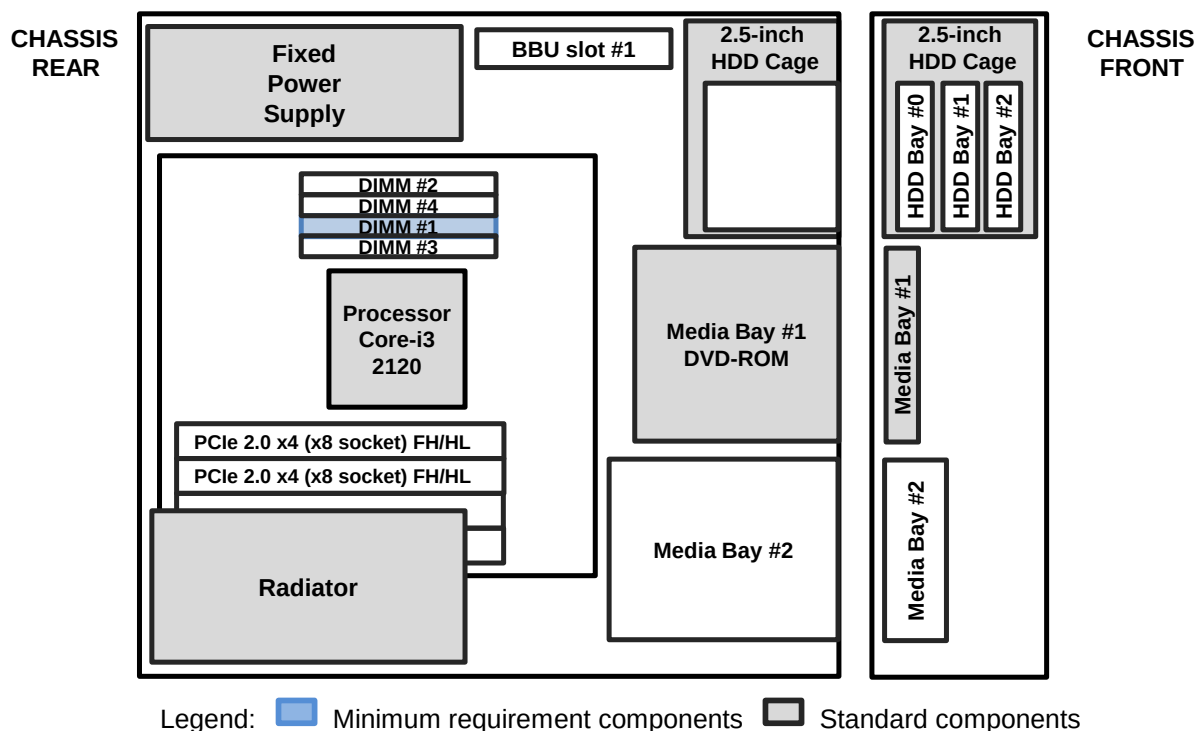


Configuration Diagram

3.5-inch Drive model



2.5-inch Drive model



Server Configuration

1 Base Models

Product Name / Description	Part Number
NEC Express5800 GT100d-S Server no RAM, no 3.5-inch HDD Including: Intel Core-i3 2120 processor, 1x Slim DVD-ROM drive, 3.5-inch HDD Cage, EXPRESSBUILDER DVD	N8100-1859F
NEC Express5800 GT100d-S Server no RAM, no 2.5-inch HDD Including: Intel Core-i3 2120 processor, 1x Slim DVD-ROM drive, 2.5-inch HDD Cage, EXPRESSBUILDER DVD	N8100-1860F

2 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 4GB (1x 4 GB) DDR3-1333 ECC Unbuffered DIMM	N8102-418F

NOTE:

- One memory kit must be installed.
- To install by double of memory kit is recommended in order to increase memory transfer speed by the dual-channel symmetric configuration.

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.

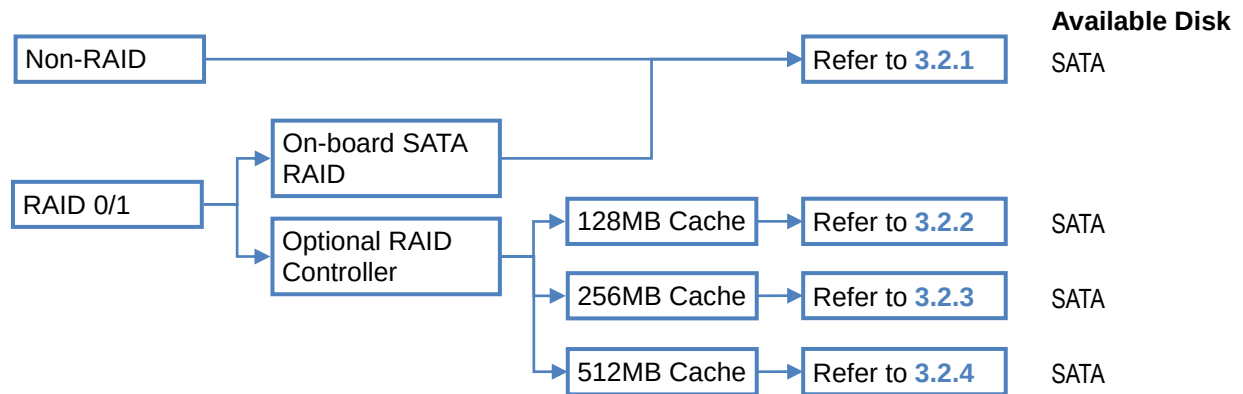
Maximum memory size supported by OS		Maximum available memory
4 GB	Microsoft Windows Server 2003 R2, Standard Edition Microsoft Windows Server 2008 Standard	4 GB(HW-DEP enabled) App. 3.3 GB (HW-DEP disabled)
32 GB	Microsoft Windows Server 2003 R2, Standard x64 Edition Microsoft Windows Server 2008 Standard (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 Red Hat Enterprise Linux 6	16 GB
256 GB	Red Hat Enterprise Linux 5 (EM64T)	32 GB
2 TB	Red Hat Enterprise Linux 6 (EM64T)	32 GB

3 Internal Hard Disk Drives

3.1 RAID Configuration

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

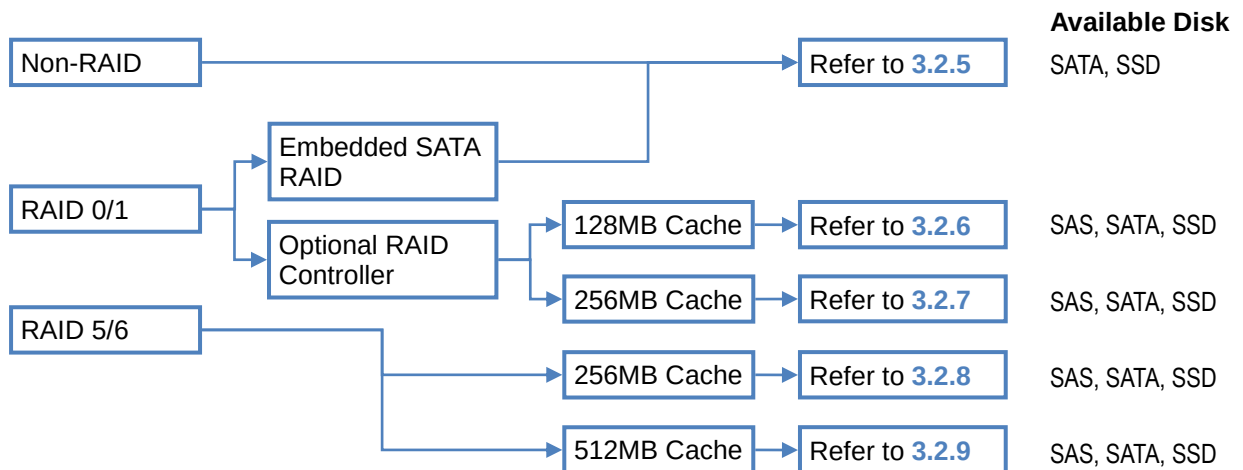
3.1.1 3.5-inch Drive



NOTE:

- Embedded SATA RAID controller is supported only on Windows operating systems. An optional RAID controller is required to configure RAID array for other operating systems.
- All hard drives within a RAID array should be of the same capacity.
- An optional RAID controller occupies one PCI slot.

3.1.2 2.5-inch Drive



NOTE:

- Embedded SATA RAID controller is supported only on Windows operating systems. An optional RAID controller is required to configure RAID array for other operating systems.
- All hard drives within a RAID array should be of the same capacity and rotation speed.
- Mixing SAS and SATA hard drives in the same system is not supported.
- Hot plug insertion/removal is not supported with the embedded SATA non-RAID controller..
- An optional RAID controller occupies one PCI slot.

3.2 Internal Drive Configuration

3.2.1 3.5-inch Drive with Embedded SATA Controller

Category	Product Name / Description	Part Number
Storage Controller	Embedded SATA Controller 2 x SATA ports, RAID 0/1 capable	(Standard)
Cable	Internal SATA Cable 1x SATA to 1x SATA , 2 sets	(Standard)
HDD Cage	3.5-inch HDD Cage 2 x 3.5-inch non hot plug (fixed) hard drive bays	(Standard)
HDD 2 slots available	160GB HDD 1 x 160 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-372
	250GB HDD 1 x 250 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-373
	500GB HDD 1 x 500 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-343
	1TB HDD 1 x 1 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-260
	2TB HDD 1 x 2 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-284
	3TB HDD 1 x 3 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-339

NOTE:

- Embedded SATA RAID controller is supported only on Windows operating systems. An optional RAID controller is required to configure RAID array for other operating systems.
- 3 TB HDDs are not supported with the embedded SATA non-RAID controller.
- All hard drives within a RAID array should be of the same capacity.

3.2.2 3.5-inch Drive with 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	N8103-141
Cable Required	Internal SATA Cable 1x mini-SAS to 2x SATA	K410-253(00)
HDD Cage	3.5-inch HDD Cage 2 x 3.5-inch non hot plug (fixed) hard drive bays	(Standard)
HDD 2 slots available	160GB HDD 1 x 160 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-372
	250GB HDD 1 x 250 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-373
	500GB HDD 1 x 500 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-343
	1TB HDD 1 x 1 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-260
	2TB HDD 1 x 2 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-284
	3TB HDD 1 x 3 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-339

NOTE:

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

3.2.3 3.5-inch Drive with 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, 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	N8103-121
Cable Required	Internal SATA Cable 1x mini-SAS to 2x SATA	K410-253(00)
HDD Cage	3.5-inch HDD Cage 2 x 3.5-inch non hot plug (fixed) hard drive bays	(Standard)
HDD 2 slots available	160GB HDD 1 x 160 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-372
	250GB HDD 1 x 250 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-373
	500GB HDD 1 x 500 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-343
	1TB HDD 1 x 1 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-260
	2TB HDD 1 x 2 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-284

NOTE:

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

3.2.4 3.5-inch Drive with RAID 0/1 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, 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	N8103-141
Cable Required	Internal SATA Cable 1x mini-SAS to 2x SATA	K410-253(00)
HDD Cage	3.5-inch HDD Cage 4 x 3.5-inch non hot plug (fixed) hard drive bays	(Standard)
HDD 2 slots available	160GB HDD 1 x 160 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-372
	250GB HDD 1 x 250 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-373
	500GB HDD 1 x 500 GB, 3.5-inch, SATA2, 7,200 rpm	N8150-343
	1TB HDD 1 x 1 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-260
	2TB HDD 1 x 2 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-284
	3TB HDD 1 x 3 TB, 3.5-inch, SATA2, 7,200 rpm	N8150-339

NOTE:

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

3.2.5 2.5-inch Drive with Embedded SATA Controller

Category	Product Name / Description	Part Number
Storage Controller	Embedded SATA Controller 4 x SATA ports, RAID 0/1/10 capable	(Standard)
Cable Required	Internal SATA Cable 3x SATA to 1x mini-SAS	K410-241(00)
HDD Cage	2.5-inch HDD Cage 3 x 2.5-inch hot plug hard drive bays	(Standard)
HDD 4 slots available	SATA 160GB HDD 1 x 160 GB, 2.5-inch, SATA2, 7,200 rpm	N8150-276
	500GB HDD 1 x 500 GB, 2.5-inch, SATA2, 7,200 rpm	N8150-277
	1TB HDD 1 x 1 TB, 2.5-inch, SATA2, 7,200 rpm	N8150-334
	SSD 100GB SSD 1 x 100 GB, 2.5-inch, SATA2	N8150-707

NOTE

- Embedded SATA RAID controller is supported only on Windows operating systems. An optional RAID controller is required to configure RAID array for other operating systems.
- All hard drives within a RAID array should be of the same capacity and rotation speed.
- Hot plug insertion/removal is not supported with the embedded SATA non-RAID controller..

3.2.6 2.5-inch Drive with 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, 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		N8103-141
Cable Required	Internal SAS/SATA Cable 1x mini-SAS to 4x Fixed SAS		K410-180(00)
HDD Cage	2.5-inch HDD Cage 3 x 2.5-inch hot plug hard drive bays		(Standard)
HDD 3 slots available	SAS	146.5GB HDD 1 x 146.5 GB, 2.5-inch, SAS 6Gb/s, 10,000 rpm	N8150-374
		300GB HDD 1 x 300 GB, 2.5-inch, SAS 6Gb/s, 10,000 rpm	N8150-375
		450GB HDD 1 x 450 GB, 2.5-inch, SAS 6Gb/s, 10,000 rpm	N8150-376
		600GB HDD 1 x 600 GB, 2.5-inch, SAS 6Gb/s, 10,000 rpm	N8150-377
		900GB HDD 1 x 900 GB, 2.5-inch, SAS 6Gb/s, 10,000 rpm	N8150-332
		73.2GB HDD 1 x 73.2 GB, 2.5-inch, SAS 6Gb/s, 15,000 rpm	N8150-378
		146.5GB HDD 1 x 146.5 GB, 2.5-inch, SAS 6Gb/s, 15,000 rpm	N8150-379
		300GB HDD 1 x 300 GB, 2.5-inch, SAS 6Gb/s, 15,000 rpm	N8150-331
	SATA	160GB HDD 1 x 160 GB, 2.5-inch, SATA2, 7,200 rpm	N8150-276
		500GB HDD 1 x 500 GB, 2.5-inch, SATA2, 7,200 rpm	N8150-277
		1TB HDD 1 x 1 TB, 2.5-inch, SATA2, 7,200 rpm	N8150-334
	SSD	100GB SSD 1 x 100 GB, 2.5-inch, SATA2	N8150-707

NOTE:

- All hard drives within a RAID array should be of the same capacity and rotation speed.
- Mixing SAS and SATA hard drives in the same system is not supported.

3.2.7 2.5-inch Drive with 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, 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		N8103-121
Cable Required	Internal SAS/SATA Cable 1x mini-SAS to 4x Fixed SAS		K410-180(00)
HDD Cage	2.5-inch HDD Cage 3 x 2.5-inch hot plug hard drive bays		(Standard)
HDD 3 slots available	SAS	146.5GB HDD 1 x 146.5 GB, 2.5-inch, SAS 6Gb/s, 10,000 rpm	N8150-374
		300GB HDD 1 x 300 GB, 2.5-inch, SAS 6Gb/s, 10,000 rpm	N8150-375
		450GB HDD 1 x 450 GB, 2.5-inch, SAS 6Gb/s, 10,000 rpm	N8150-376
		600GB HDD 1 x 600 GB, 2.5-inch, SAS 6Gb/s, 10,000 rpm	N8150-377
		900GB HDD 1 x 900 GB, 2.5-inch, SAS 6Gb/s, 10,000 rpm	N8150-332
		73.2GB HDD 1 x 73.2 GB, 2.5-inch, SAS 6Gb/s, 15,000 rpm	N8150-378
		146.5GB HDD 1 x 146.5 GB, 2.5-inch, SAS 6Gb/s, 15,000 rpm	N8150-379
		300GB HDD 1 x 300 GB, 2.5-inch, SAS 6Gb/s, 15,000 rpm	N8150-331
	SATA	160GB HDD 1 x 160 GB, 2.5-inch, SATA2, 7,200 rpm	N8150-276
		500GB HDD 1 x 500 GB, 2.5-inch, SATA2, 7,200 rpm	N8150-277
		1TB HDD 1 x 1 TB, 2.5-inch, SATA2, 7,200 rpm	N8150-334
	SSD	100GB SSD 1 x 100 GB, 2.5-inch, SATA2	N8150-707

NOTE:

- All hard drives within a RAID array should be of the same capacity and rotation speed.
- Mixing SAS and SATA hard drives in the same system is not supported.

3.2.8 2.5-inch Drive with 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	N8103-121
Cable Required		Internal SAS/SATA Cable 1x mini-SAS to 4x Fixed SAS	K410-180(00)
HDD Cage		2.5-inch HDD Cage 3 x 2.5-inch hot plug hard drive bays	(Standard)
HDD 3 slots available	SAS	146.5GB HDD 1 x 146.5 GB, 2.5-inch, SAS 6Gb/s, 10,000 rpm	N8150-374
		300GB HDD 1 x 300 GB, 2.5-inch, SAS 6Gb/s, 10,000 rpm	N8150-375
		450GB HDD 1 x 450 GB, 2.5-inch, SAS 6Gb/s, 10,000 rpm	N8150-376
		600GB HDD 1 x 600 GB, 2.5-inch, SAS 6Gb/s, 10,000 rpm	N8150-377
		900GB HDD 1 x 900 GB, 2.5-inch, SAS 6Gb/s, 10,000 rpm	N8150-332
		73.2GB HDD 1 x 73.2 GB, 2.5-inch, SAS 6Gb/s, 15,000 rpm	N8150-378
		146.5GB HDD 1 x 146.5 GB, 2.5-inch, SAS 6Gb/s, 15,000 rpm	N8150-379
		300GB HDD 1 x 300 GB, 2.5-inch, SAS 6Gb/s, 15,000 rpm	N8150-331
	SATA	160GB HDD 1 x 160 GB, 2.5-inch, SATA2, 7,200 rpm	N8150-276
		500GB HDD 1 x 500 GB, 2.5-inch, SATA2, 7,200 rpm	N8150-277
		1TB HDD 1 x 1 TB, 2.5-inch, SATA2, 7,200 rpm	N8150-334
	SSD	100GB SSD 1 x 100 GB, 2.5-inch, SATA2	N8150-707

NOTE:

- All hard drives within a RAID array should be of the same capacity and rotation speed.
- Mixing SAS and SATA hard drives in the same system is not supported.

3.2.9 2.5-inch Drive with 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	N8103-141
Cable Required		Internal SAS/SATA Cable 1x mini-SAS to 4x Fixed SAS	K410-180(00)
HDD Cage		2.5-inch HDD Cage 3 x 2.5-inch hot plug hard drive bays	(Standard)
HDD 3 slots available	SAS	146.5GB HDD 1 x 146.5 GB, 2.5-inch, SAS 6Gb/s, 10,000 rpm	N8150-374
		300GB HDD 1 x 300 GB, 2.5-inch, SAS 6Gb/s, 10,000 rpm	N8150-375
		450GB HDD 1 x 450 GB, 2.5-inch, SAS 6Gb/s, 10,000 rpm	N8150-376
		600GB HDD 1 x 600 GB, 2.5-inch, SAS 6Gb/s, 10,000 rpm	N8150-377
		900GB HDD 1 x 900 GB, 2.5-inch, SAS 6Gb/s, 10,000 rpm	N8150-332
		73.2GB HDD 1 x 73.2 GB, 2.5-inch, SAS 6Gb/s, 15,000 rpm	N8150-378
		146.5GB HDD 1 x 146.5 GB, 2.5-inch, SAS 6Gb/s, 15,000 rpm	N8150-379
		300GB HDD 1 x 300 GB, 2.5-inch, SAS 6Gb/s, 15,000 rpm	N8150-331
	SATA	160GB HDD 1 x 160 GB, 2.5-inch, SATA2, 7,200 rpm	N8150-276
		500GB HDD 1 x 500 GB, 2.5-inch, SATA2, 7,200 rpm	N8150-277
		1TB HDD 1 x 1 TB, 2.5-inch, SATA2, 7,200 rpm	N8150-334
	SSD	100GB SSD 1 x 100 GB, 2.5-inch, SATA2	N8150-707

NOTE:

- All hard drives within a RAID array should be of the same capacity and rotation speed.
- Mixing SAS and SATA hard drives in the same system is not supported.

4 Internal Optical Drive

Available Bays: 1

Product Name / Description	Part Number
Slim DVD-ROM drive	(Standard)
Internal DVD Super Multi Drive Slim DVD Super Multi drive, not including writing software	N8151-104F

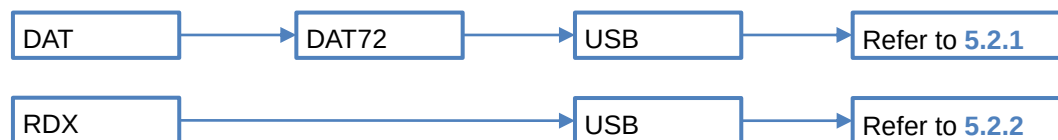
NOTE:

- To install internal DVD Super Multi drive, the standard DVD-ROM drive needs to be removed.

5 Internal Tape / RDX drives

5.1 Tape / RDX Drive Selection

Refer the section according to the type of tape drives.



NOTE:

- No tape drive can be installed if you install optional 2.5-inch HDD Cage.

5.2 Tape / RDX Configuration

5.2.1 DAT / USB

Category	Product Name / Description	Part Number
Controller	Internal USB Controller 1 x USB port or 1 x pin-header for front panel USB	(Standard)
Cable Required	Internal USB Cable 1x Internal USB to 1x USB device NOTE: The cable is required to install USB tape drive only.	K410-255(00)
	Internal USB Cable 1x pin-header for front panel USB to 1x USB device and 1x front panel USB port NOTE: The cable is required to install internal flash memory and USB tape drive. A USB tape drive occupies one front USB port.	K410-245(00)
Drive 1 bay available	Internal DAT (USB) DDS3 / DDS4 / DAT72, Native capacity 36 GB NOTE: DDS1 / DDS2 format are not supported	N8151-69

5.2.2 RDX

Category	Product Name / Description	Part Number
Controller	Internal USB Controller 1 x USB port or 1 x pin-header for front panel USB	(Standard)
Cable Required	Internal USB Cable 1x Internal USB to 1x USB device NOTE: The cable is required to install USB tape drive only.	K410-255(00)
	Internal USB Cable 1x pin-header for front panel USB to 1x USB device and 1x front panel USB port NOTE: The cable is required to install internal flash memory and USB tape drive. A USB tape drive occupies one front USB port.	K410-245(00)
	Internal RDX (USB)	N8151-86
Drive 1 bay available		

6 Internal Flash Memory

Available socket: 1

Product Name / Description	Part Number
Internal Flash Memory Internal flash memory to enable software and tools in the EXPRESSBUILDR DVD without DVD media 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: - Installation of Windows server with express setup - Installation of Starter Pack—the package of NEC qualified drivers and system setting tools - Installation of NEC ESM PRO Agent and Universal RAID Utility - Performance of the Test and Diagnosis Tool	N8115-05

7 PCI Card

7.1 LAN Controller

Category	Product Name / Description	Part Number
LAN	1000BASE-T Adapter (2ch) Broadcom NetXtreme II 5709 Dual port Network Interface Card PCIe x4, LP / FH 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.	N8104-134

8 Other Add-in Components

8.1 Input Devices

Product Name / Description	Part Number
Keyboard and Mouse Pack (US) 1 x 104-keys White USB keyboard, 1 x USB White Optical Wheel Mouse	(Standard)

9 Add-on Components

9.1 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 KVM and remote media are enabled regardless of OS status. Remote KVM: - 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

9.2 Dust / Insect Proof Kit

The GT110d-S server supports the dust resistant feature. Choose the following kit to install the system in dusty places..

Category	Product Name / Description	Part Number
Front Bezel	Dust Proof Bezel with Sensor Including 1 set of filter replacement sensors, 1 set of dust proof filters	N8146-19
Filter	Dust proof filter (5 pcs.) For N8146-19 Dust Proof filter Removal capacity of particles : Up to 1 µm-sized	N8147-22

9.3 Flash FDD

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

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

9.4 Medium and Cartridge

Category	Product Name	Drive supported	Part Number
RDX	RDX Cartridge (320GB)	N8151-86	N8152-26
	RDX Cartridge (500GB)	N8151-86	N8152-27
	RDX Cartridge (1TB)	N8151-86	N8152-33
DAT	DAT72(36GB) Medium 5 pack	N8151-69	N8152-08

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 N8100-1738F in EMEA is N8100-1730F-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 GT110d-S 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	✓	✓
	Scheduling (without UPS)	✓	✓
Maintenance	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

		WS 2008R2	WS 2008	WS 2008 x64	WS 2003R2	WS 2003R2 x64	RHEL 5	RHEL 5 x64	RHEL 6	RHEL 6 x64	VMware ESXi 5.0
Part Number	Product Name										
N8103-128	RAID Controller	✓	✓	✓	✓	✓	✓	✓	✓	✓	-
N8103-129	RAID Controller	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
N8103-130	RAID Controller	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
N8103-134	RAID Controller	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
N8104-134	1000BASE-T Adapter	✓	✓	✓	✓	✓	✓	✓	✓	✓	-

Supporting PCI cards and Installable Slots

Part Number	Product Name	Slots		Remarks
	Slot # :	#1	#2	
	PCI Slot:	x4		
	Card height:	LP		
	Slot type:	x8		
	Installable card length (mm) :	167		
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]	✓	-	
N8104-134	1000BASE-T adapter (2ch) [PCIe x4]	✓	✓	

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

The USB interface is not guaranteed to work properly for all USB devices.

Revision History

Revision	Date	Description
1.0	February 13, 2012	Initial release